Textile Industries

NOVEMBER, 1947

formerly COTTON Textile Industries

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IFTER RODS FOR ALL SPINNING FRAMES—BY PRECISION

- Whether standard or special, we make and grind PRECISION Lifter Rods to customer's specifications.
- PRECISION Lifter Rods are made of special steel for extra toughness and may be extra hard chromed plated.
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- Manufactured for all makes of spinning frames.
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Volume 111 Number 11

DRAPER SERVICE

That knotty problem you have sweated and toiled and steamed over . . . that hard-to-find trouble which is making your production records take a nose dive . . . that defect which is piling up "seconds" and brings the Management down on your ears . . . that's the time you need help.

Perhaps one of our Service Men can bring you a new viewpoint; be of practical "down to shirt sleeves" kind of help. He is a specialist on Draper Looms. He has had wide experience in trouble shooting. His efforts and yours will be aided where necessary by our Engineering and Research Departments.

Why not avail yourself of this help . . . it's yours for the asking.

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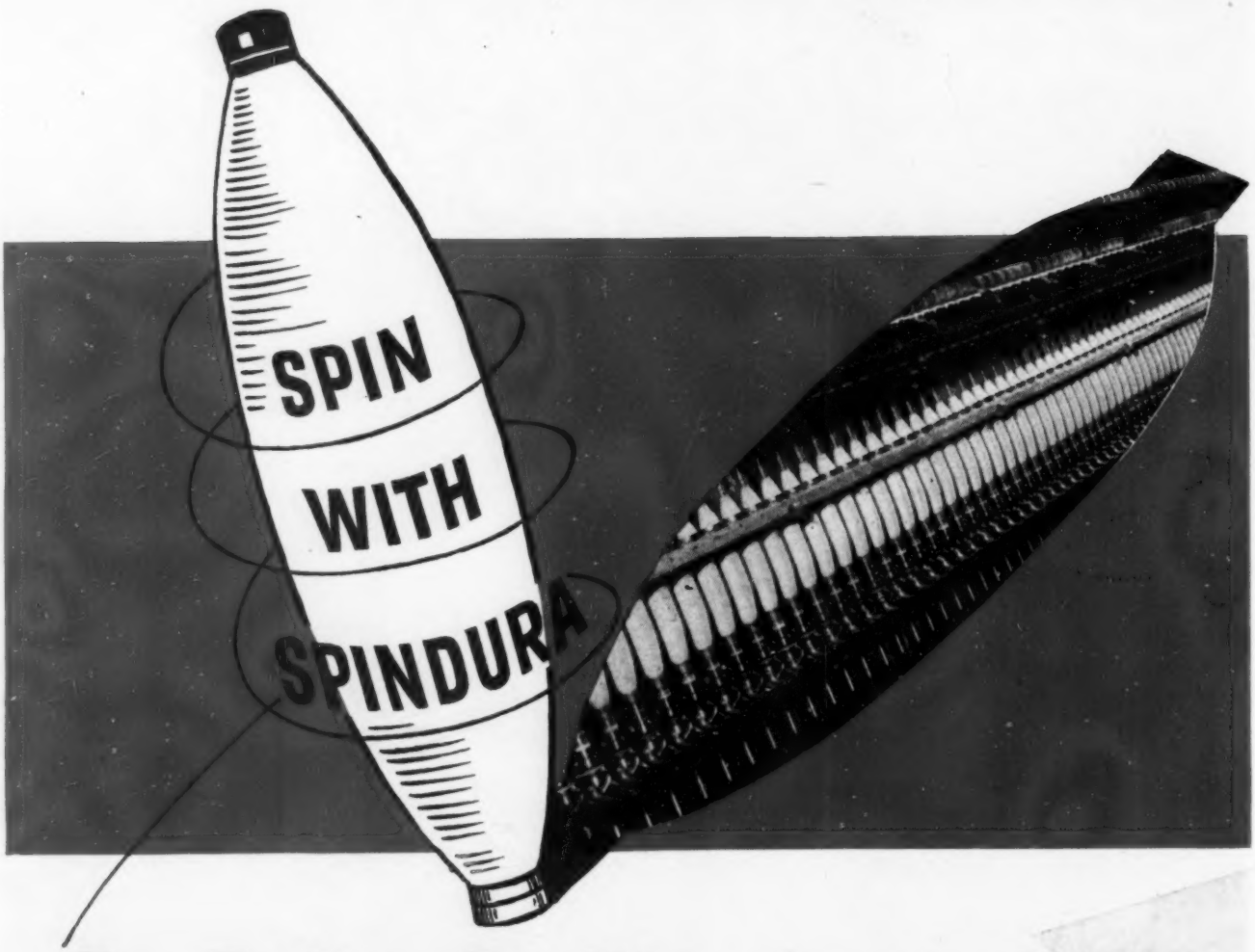
HOPEDALE MASSACHUSETTS U S A



For Better Quality...Lower Costs

YOU CAN be sure of smoother, cleaner, more uniform yarn at lower cost when you lubricate spindles with *Texaco Spindura Oils*—especially made to assure efficient spindle operation.

Spindura Oils resist oxidation, thickening and fogging . . . do not form gummy deposits. You can run spindles at higher speeds and with heavier packages, and still have less vibration and "drag" . . . less hunting and lagging . . . fewer ends down . . . *lower power consumption.* Yarn stays cleaner.

Texaco Spindura Oils meet all spindle manufacturers' specifications for the lubrication of spinning, throwing, spooling and twisting machines.

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FOR THE TEXTILE INDUSTRY

TUNE IN . . . TEXACO STAR THEATRE presents the TONY MARTIN SHOW every Sunday night. • METROPOLITAN OPERA broadcasts every Saturday afternoon.

Volume 111, Number 11

Textile Industries

NOVEMBER, 1947

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Maynard L. Durham
Business Manager
Business Representatives

ARTHUR C. SHAW, 11 Monroe Road, Wellesley Hills, Mass. (Wellesley 3648).
WILLIAM K. HOFFMAN, 26 Bowdoin St., Maplewood, N. J. (South Orange 2-2484).
L. E. ALLEN, 1101 Security Bldg., 189 West Madison St., Chicago, Illinois (Graceland 6266).
A. E. C. SMITH, 206 Auditorium Bldg., Cleveland 14, Ohio. (Cherry 7452).
J. D. PARSONS, 63 Barker St., Buffalo 9 N. Y. (Garfield 5532).
W. A. MCGEE, Box 562, Charlotte, North Carolina. (3-4932).
LOYD B. CHAPPELL, Auditorium Bldg., 427 West 5th St., Los Angeles, California, (Michigan 9849).

John C. Fonville
Editor

J. Frank Guest
L. J. Williams
Milton C. May
G. M. Carby

CONSULTING EDITORS
F. Gordon Cobb
Ben H. Crawford

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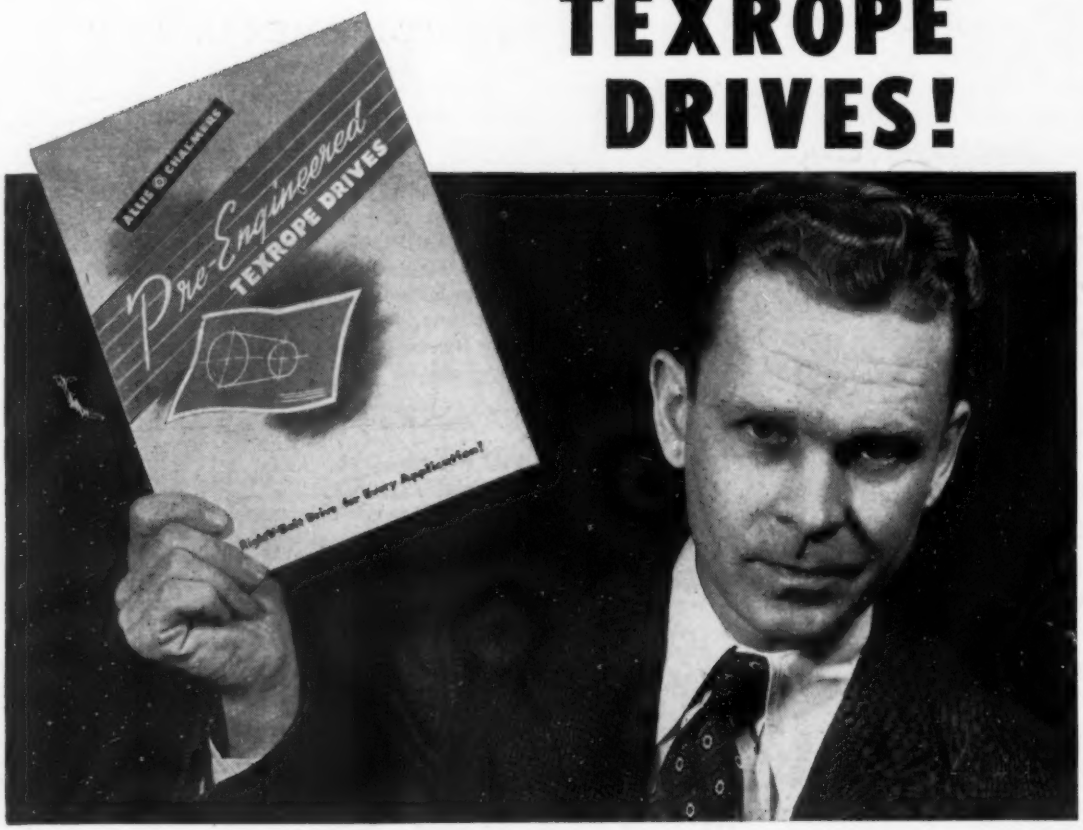

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Five Types — Sizes to suit every power transmission job.

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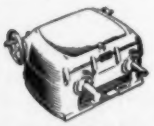
— sheaves in a full range of sizes, grooves.

"Vari-Pitch" SHEAVES
Exact variations in speed, stationery or motion control.



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1847 1947 A CENTURY OF SERVICE to Industry THAT MADE America Great

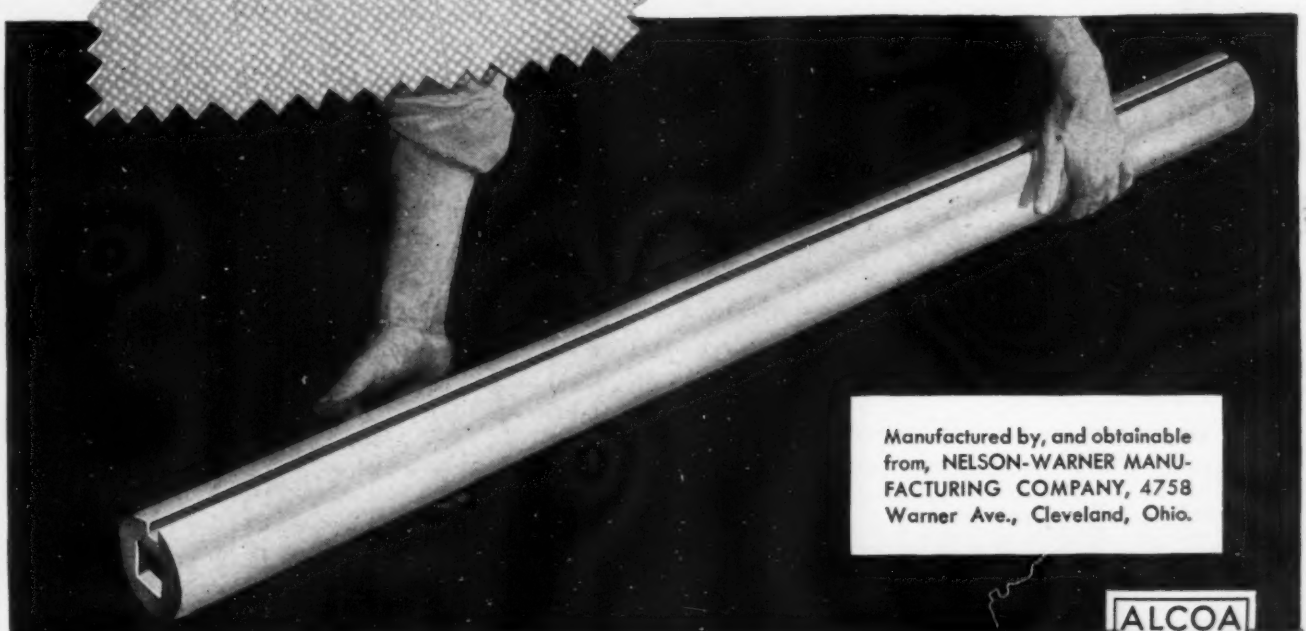
THEY'RE CALLING THEM "INDESTRUCTIBLE"!

CLOTH ROLLS OF ALCOA ALUMINUM

No wonder weavers are enthusiastic! Here's a *metal* cloth roll with the light weight of its wood predecessor, yet with all of the advantages of strong, non-warping, non-splintering, corrosion-resistant Alcoa Aluminum!

Count the advantages yourself! Think of a cloth roll that won't absorb wet colors in the bleachery—won't get "soggy"—yet will never rust-stain the cloth it carries. A cloth roll whose smooth surface will never roughen or splinter, despite careless handling . . . whose ends will never "round out" at the drive holes; always stay square for positive fit. A roll from which the cloth will always slip off easily.

This is typical of the improvements Alcoa Aluminum is making possible in the textile industry's machinery and materials handling equipment. ALUMINUM COMPANY OF AMERICA, 1939 Gulf Building, Pittsburgh 19, Pennsylvania. Sales offices in principal cities.



Manufactured by, and obtainable from, NELSON-WARNER MANUFACTURING COMPANY, 4758 Warner Ave., Cleveland, Ohio.

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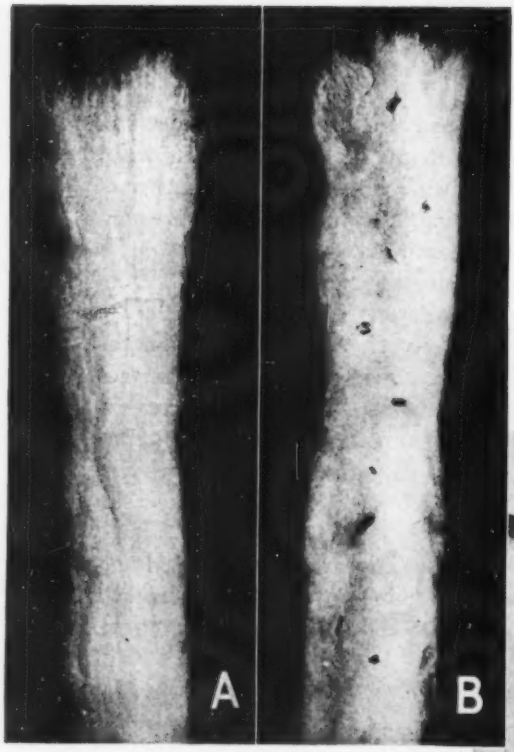
IN EVERY COMMERCIAL FORM

The Continuous Stripper - an economical "tool" for BETTER PRODUCTION and CLEANER CLOTH



A comparison of card slivers . . . A—a clean cylinder produces a sliver with a minimum of neps, broken leaf, and other impurities.

B—a dirty cylinder, loaded with impacted waste, cannot do an efficient cleaning job.

The Saco Lowell Continuous Stripper is daily demonstrating its ability to increase production at the card and at the same time reduce waste and improve the cleanliness and evenness of the sliver.

The freedom from impacted waste, which interferes with the carding action of the wire of the cylinder clothing, generally reduces the nep count; and the lack of periodical stripping improves the uniformity of the sliver.

The improvement in card operation shown by the 'test data' at the right, is by no means an unusual case as evidenced by the fact that —

there are more than 12,000 Saco-Lowell Continuous Strippers now in operation —

increasing production, improving quality and preventing waste for mills who have put them on their cards.

Write for bulletin to our nearest office.

Here are the improvements in one mill after installing Saco-Lowell Continuous Strippers:

Reduction in Cylinder and Doffer Strips
96%

Reduction in Neps in Sliver
38%

Reduction in Impurities in Sliver
24%

Increase in Breaking Strength of Yarn
5.4%

Saco-Lowell Shops • **BOSTON**

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Veeder-Root Vantage-Points

VEEDER-ROOT 2-3 PICK COUNTERS

ARE EASIER TO READ

They're easier to read because the broad-faced wheels carry large, bold, lithographed figures . . . figures that are on the same plane with the surface of the wheel . . . *not sunken figures.*

So you can read your production "news" easily from several feet away . . . without eye-strain.

This is one of many Veeder-Root Vantage Points which add up to give you top value in Veeder-Root 2-3 Pick Counters. *Look at all you get:*

QUICK CONVERTIBILITY
YALE LOCK PROTECTION
COMPRESSION CLAMP DRIVE
ALL PARTS CORROSION-TREATED
STRONG, LOW-WEIGHT WHEELS
STEEL MOUNTING INSERTS
EASY-RESETTING KNOBS
COMPLETE INSTALLATION

Have your Veeder-Root Field Engineer show you exactly what these Veeder-Root Vantage Points mean.

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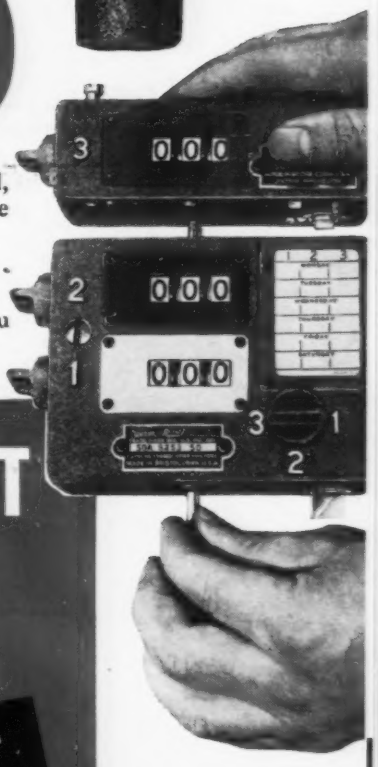


VEEDER-ROOT 2-3 Pick Counters

Quickly Convertible from 2 to 3-Shift Operation Right in Your Mill

A world-wide

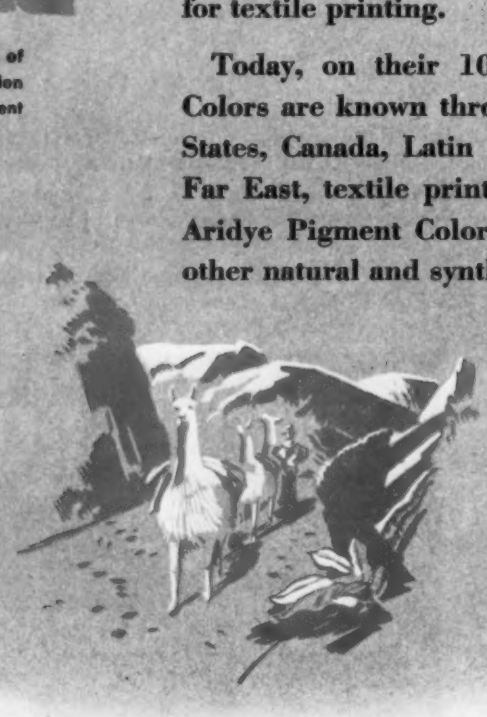
Aridye

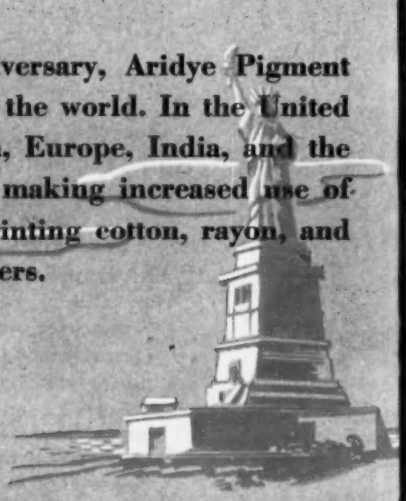
Pigment colors

Research Laboratories of Interchemical Corporation where Aridye Pigment Colors were born.

In the fall of 1937 a group of workers in the Research Laboratories of Interchemical Corporation, searching for better methods for coloring textiles, succeeded in developing entirely new types of coloring materials. These were pigmented water-in-oil emulsions. Christened Aridye* Pigment Colors, these new products proved to have many advantages over conventional dyes for textile printing.

Today, on their 10th anniversary, Aridye Pigment Colors are known throughout the world. In the United States, Canada, Latin America, Europe, India, and the Far East, textile printers are making increased use of Aridye Pigment Colors for printing cotton, rayon, and other natural and synthetic fibers.





reputation

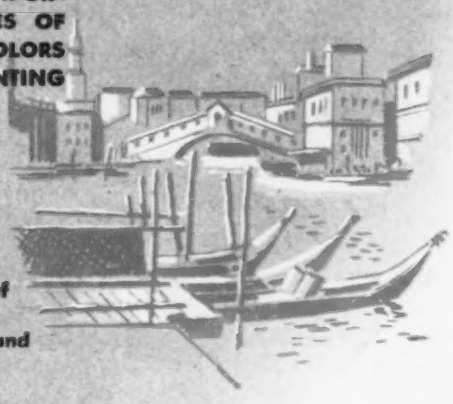
IN 10 SHORT YEARS!

The original formulations of pigmented water-in-oil emulsions have been vastly improved. Other types of Aridye Pigment Colors have been introduced for application by the oil-in-water emulsion system, the solvent dispersion system, and the aqueous dispersion system. Processes for dyeing with various types of Aridye Pigment Colors have been developed. Through constant research, Interchemical will continue its leadership in the development of better products and processes for better pigment printing and dyeing.

A fully equipped organization stands ready to aid you in the solution of any printing or dyeing problem involving the application of pigment colors. And you are cordially invited to call on us at any time for technical service or information. Write to Interchemical Corporation—Textile Colors Division—Pioneers in Pigment Colors for Textiles—Box 357, Fair Lawn, N. J.

CHECK LIST OF IMPORTANT ADVANTAGES OF ARIDYE PIGMENT COLORS FOR TEXTILE PRINTING

- Sharpness of Mark
- Close Registration
- Fastness to Sunlight
- Fastness to Washing
- Bright Colors
- Uniformity of Shade
- Ease and Economy of Application
- No Impairment of Hand



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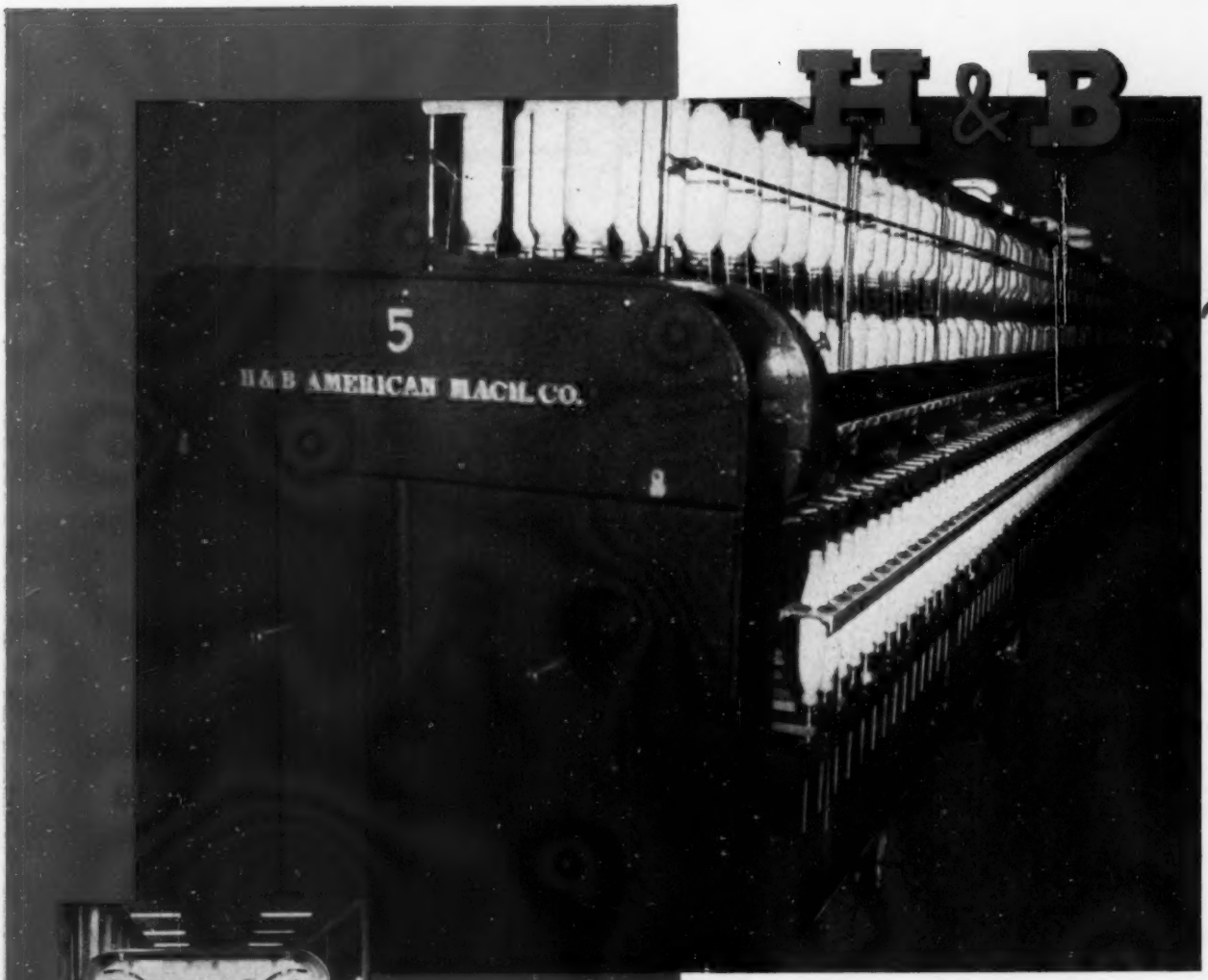
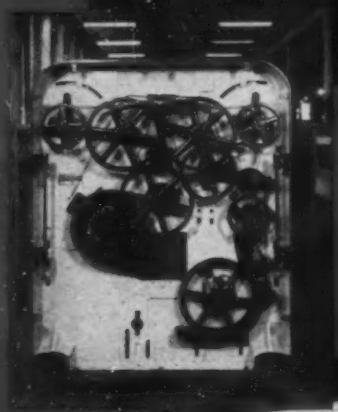
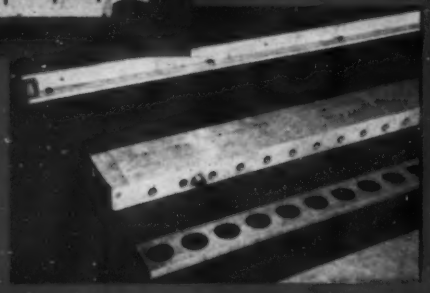




Head end showing Alfax Lubrication System and chain drive from cylinder to jack gear.

H & B Spinning Frames are now equipped with extruded aluminum ring rails, spindle rails and roller beams.



The bare truth is that the importance of the spinning frame, stripped of whatever drafting system is used on it, is too often minimized. Just as defects in a foundation may eventually weaken and render useless any building, so may anything less than a first class frame seriously affect your spinning production. H & B Spinning Frames, whether equipped with conventional 3-roll, 4-roll Long-Draft or Casablancas High-Draft systems, are designed and built for superior performance from the beginning.

H & B AMERICAN

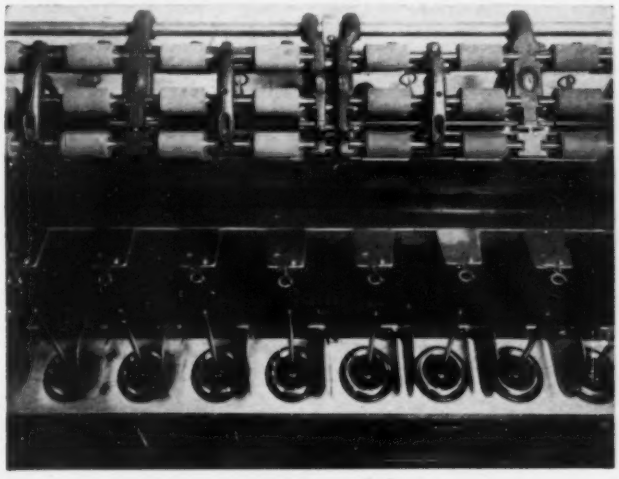
Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

SPINNING FRAMES

A Good Basis for Better Spinning

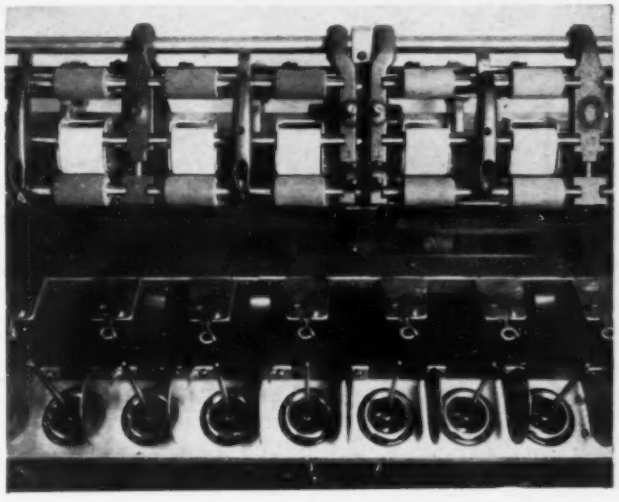
● For mills who prefer the simplicity and economy of roller drafting, the H & B 4-Roll Long Draft System is ideal. It is equipped with a patented weighting assembly having a minimum of parts, streamlined for cleanliness, and without stirrup adjusting screws. This is a one unit interlocking assembly wherein weighting distribution is positively controlled by one weight for all drafting rolls.



Above — 4-Roll Long Draft System

Below— H & B Casablancas High-Draft System

● For mills who prefer a belt system there is nothing better than H & B Casablancas. This system, with two endless belts to carry the roving, features automatic precision weighting, streamlined saddle, and a new one-piece cradle. It offers more possibilities for better quality yarn than does any conventional system.



Whatever your preference.

give it the added benefit of the H & B Spinning Frame.

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Textile Machinery

DIVISION PAWTUCKET, RHODE ISLAND, U. S. A.

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Here lies (in how many mills?) the golden goose of weave-room efficiency. How could it have been killed?

By failure to study, to teach, or to understand the new features of new C&K Looms.

By lack of appreciation of the importance of maintaining proper temperature and humidity.

By sloppy winding so yarn snarls coming off the bobbin and stops the loom.

By careless sizing of warp and conditioning of filling.

By inadequate maintenance in the weave room.

If *your* goose is in danger of "cooking," there's only one way to save it — by friendly and informal (but thorough) education of your entire organization. It will be worth the effort for modern C&K Looms do improve working conditions, earning power, the security of everyone's job, and insure the future prosperity of the mill.

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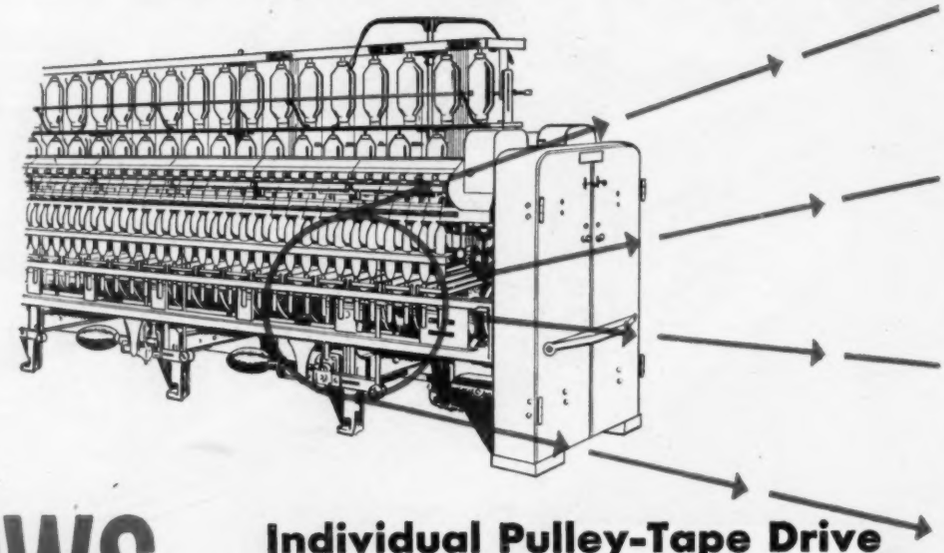
MODERNIZE

YOUR OLD BAND DRIVE SPINNING FRAMES



With MEADOWS Individual Pulley-Tape Drive CONVERSIONS!

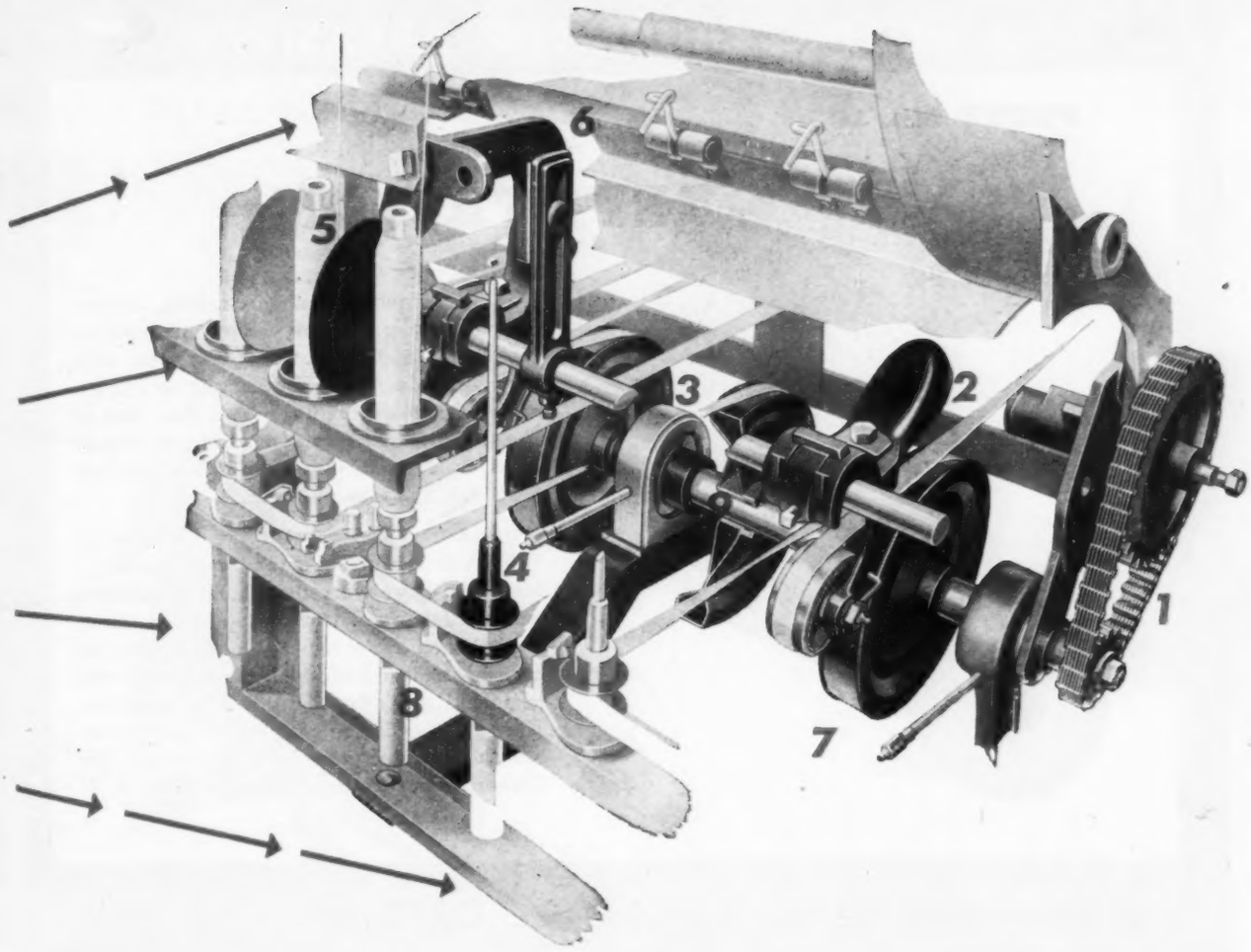
Old model band-drive frames can be converted to tape-drive, and made to operate at peak efficiency, by installing the parts shown on the opposite page. Higher speeds can be attained with less vibration and with fewer ends down; spindle speeds are uniform, which means uniform twist, better package and more yarn.

Light-weight solid aluminum alloy Separators mean less wear on yarn while it is being spun: Ball Bearing Tape Tension Pulleys mean low power consumption, no tapes off due to choked or sticky pulleys: silent Chain Drive means less noise, less vibration: individual driving pulleys, and high strength ground and polished shafting, mounted on heavy duty ball-bearings means low power consumption, smooth operation and no more cylinder trouble.

On frames that are already tape-driven, the installation of our individual Driving Pulleys, high strength shafting and heavy duty ball-bearings will eliminate cylinder trouble *for keeps.* This is because the power input is through a steel shaft, rather than a tin cylinder. The driving pulleys are made of much heavier steel than cylinders, yet do not coast, because the mass of rotating metal is near the center of gyration. *No more heads to jerk out.*

Let one or our representatives show you how a Meadows Conversion will increase production on your spinning frames.

MEADOWS MANUFACTURING



1. CHAIN DRIVE: 1" or ¾" center guide, silent chain, hardened steel cylinder gear, cast iron machined Jack-gear, cast iron swing arm. Jack-shafts can be furnished either plain or ball bearing.

2. MEADOWS TENSION PULLEY ASSEMBLY: B-214 LA Ball Bearing aluminum alloy Tension Pulley, 3¼" diameter, 1¼" crown face; B-243 Tension Weight, B-241 Spacing Collar; M-48 curved steel Washer; Cap Screw and Set Screw.

3. B-299 UNIVERSAL BALL BEARING CYLINDER UNIT: Built with heavy duty Fafnir Bearings; metal shields both sides for dust elimination; self aligning. Can be furnished for any particular installation.

4. NEW WHIRLS: Can be furnished to your specifications.

5. ALUMINUM ALLOY SEPARATOR SHIELDS: Made from high strength aircraft sheet aluminum, with cast hub. Brackets, rods and accessories can be furnished with the blades. Shields will bend without breaking.

6. ADJUSTABLE CAST IRON SUPPORTING HANGERS: For each make of frame.

7. INDIVIDUAL PRESSED STEEL DRIVING PULLEY: Made of 18 gauge, high strength cold rolled steel, welded to steel hub; steel hub has shaft-protecting ring inside, to prevent set-screws from biting into shaft, making pulley easily adjustable.

8. NEW CAST IRON CROSS-GIRTS: Can be furnished for any particular application.

9. HIGH STRENGTH STEEL SHAFTING: SAE 1035, cold rolled, ground and polished.

Representatives

JAMES P. COLEMAN,
P. O. Box 1351, Greenville, S. C.

WALTER S. COLEMAN,
P. O. Box 722, Sailsbury, N. C.

MATTHEWS EQUIPMENT CO.,
93-A Broadway, Providence, R. I.

R. L. HOLLOWAY,
Atlanta, Ga.

We Engineer and service each installation, design and manufacture all parts.

COMPANY — ATLANTA, GA.

A BUYING GUIDE FOR ABRASIVES

POINT No. 10

REPUTATION

As many purchasing agents realize, known names carry plenty of weight in winning acceptance and approval of the men who use the products they buy. In abrasives, no name is more favorably known than that of The Carborundum Company. Instantly recognized and widely respected, it has signified peak quality for years.

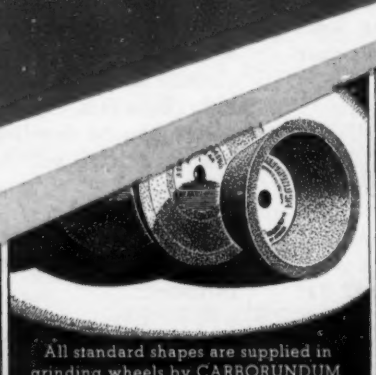
Management knows well the standing of The Carborundum Company in industry. Men who have worked with these abrasive tools are familiar with their superior performance. When abrasives by CARBORUNDUM are specified and ordered, there is no need to defend, explain or justify your selection. They are the choice of those whose preference has been confirmed by experience. The Carborundum Company, Niagara Falls, N. Y.

A Good Rule for Good Grinding...CALL IN

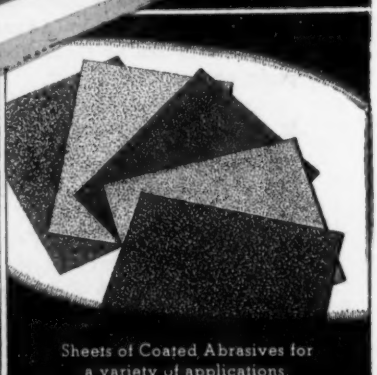
CARBORUNDUM

TRADE MARK

- BONDED ABRASIVES
- COATED ABRASIVES
- ABRASIVE GRAINS AND FINISHING COMPOUNDS

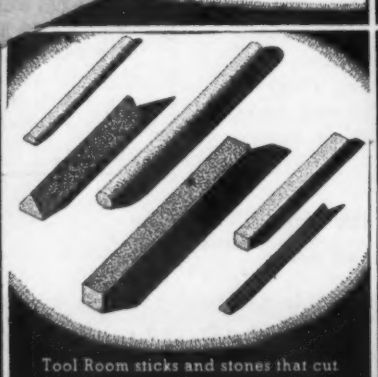


All standard shapes are supplied in grinding wheels by CARBORUNDUM.

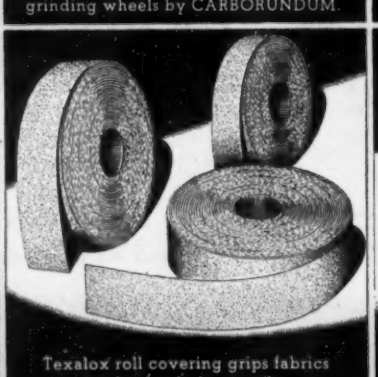


Sheets of Coated Abrasives for a variety of applications.

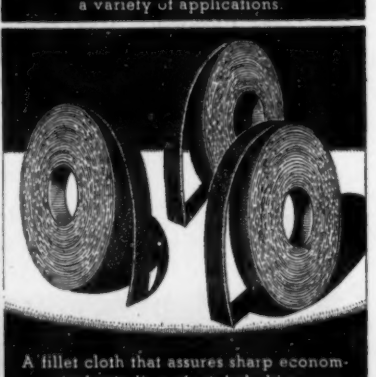
"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company.



Tool Room sticks and stones that cut fast... last long... and hold their form.

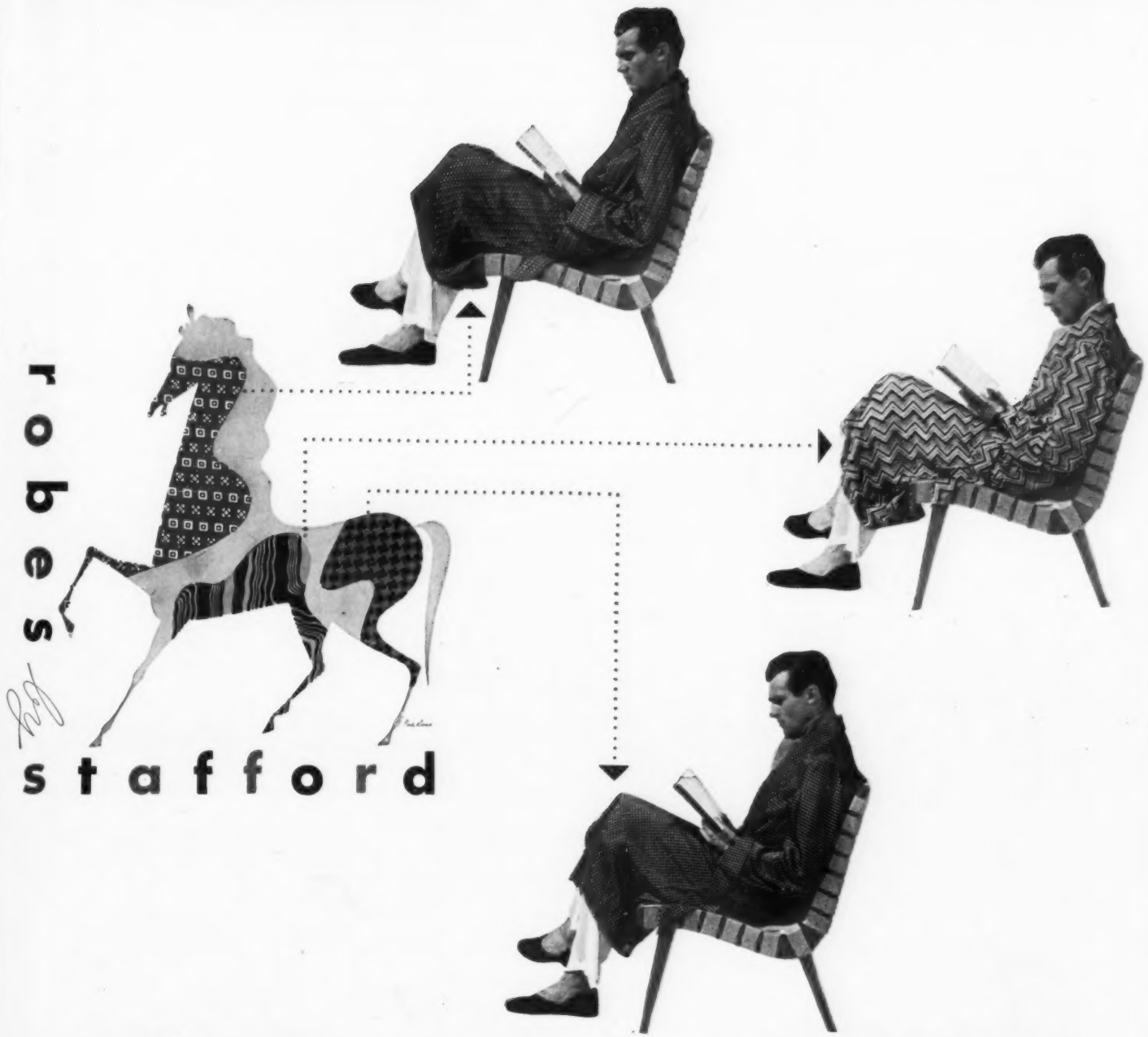


Texalox roll covering grips fabrics firmly, surely but gently.



A fillet cloth that assures sharp economical grinding of card clothing.

SANDOZ PRESENTS *The color achievement of the month*



Within his own four walls is one place a man can give full rein to a desire to express himself in color. From the famous "stable" of Stafford robes, bearing the distinctive stallion trademark, he can select his own winning colors.

Goodman & Theise, Inc., manufacturers of Staffordwear, have selected Sandoz to participate in the dyeing of Stafford fabrics.

Typical of the Sandoz products offering economies in handling and the greatest possible certainty of color fastness is CHLORAMINE BRILLIANT ORANGE RS which has excellent properties for printing of rayon fabrics. It is the brightest of all direct orange dyestuffs and is also ideal for clear salmon-pink and tea-rose shades on underwear fabrics and sewing thread where its good wash fastness is appreciated.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements.

Sandoz application laboratories are located in New York, Boston, Los Angeles, Philadelphia, Charlotte and Toronto, where stocks in a wide range are carried. Other branches are in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

SANDOZ *thinks ahead with textiles*

THIS IS NO. 66 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

VARIOUS SHAPES OF PINEAPPLE CONES (No. 50 Winding Machine)

The Pineapple Coning Attachment is capable of building a wide variety of package shapes as shown in Fig. 1. The taper of both nose and base of cone can be varied; the winding point can be placed where desired; and there is a choice of traverse lengths.

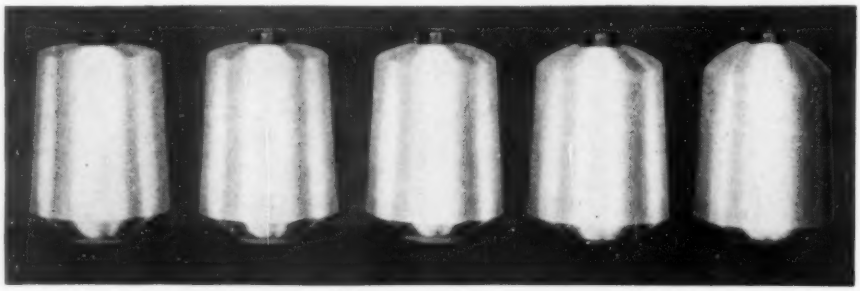


Fig. 1. Examples of variety in shape of Universal Pineapple Cone.

The traverse of the yarn is controlled by the motion of the bell crank (A in Fig. 2), which in turn is controlled by the shape of the slot in the taper bar (B). This bar pivots on a center which is created by inserting a stud in one of the five holes in the taper bar and traverse frame back. The pivoting takes place as the increasing size of the package causes the inner end of the bar to travel along the groove in the builder cam (C). The use of one hole or another does not affect the amount that the traverse is shortened, but it does change the angles at nose and base of the cone. The farther forward the hole that is used, the greater the taper at the base and correspondingly less at the nose. Using a hole farther back gives the opposite effect. Selection of the proper hole to give the desired taper is the first adjustment to be made.

The next setting — preliminary to determining the winding point — is made with the traverse bar. There is a table in the catalog giving the normal traverse bar settings for the commonly used builder cams, but the following will do if it is necessary to use an alternate method.

1. Place the pressure roll (D) against the empty paper cone and the taper bar with the back end raised nearly as high as it will go, so that there is only 1/32 in. clearance between the bar and the shoulder of the traverse frame back.

2. Check the position by turning the cone by hand through one revolution of the cam.

3. Obtain the desired winding point by screwing the traverse bar in or out of the traverse slide.

This gives an approximate position of the winding point. Next it is necessary to adjust for the traverse length. All cones are wound with a 5 in. main cam, so the length of yarn traverse must be controlled by the builder cam (C).

1. Position the builder cam holder so that it is half-way in its limit vertically.

2. Assemble the builder cam to the holder, moving it to the right or left to give the desired traverse length — to the right for a shorter traverse, to the left for a longer traverse.

With the traverse length set, a more accurate setting of the winding point is made by shifting the builder cam holder and cam assembly up or down by means of the slots. The higher the holder, the farther forward the winding point.

Whereas the taper bar hole setting affects only the taper, the other two settings affect each other to some extent, and a little experimentation is therefore necessary in order to obtain the shape of package desired.

There are no tools manufactured for duplicating the settings from one spindle to the next, but they can be easily improvised. A piece of wood whittled to proper size is all that is necessary to duplicate any of the settings.

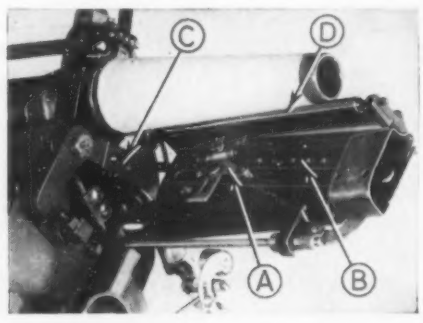


Fig. 2. No. 50 Pineapple Coning Attachment.

Builder Cams

Any of a great variety of tapers is possible through a choice of several builder cams. The four shown in Fig. 3 are standard; the others are for special effects.

(The cams and holders can be identified by the number on the face of the part.)

No. 5 Builder Cam 50-3018-5P3. For traverse lengths of 5½ in. or less and medium base diameter.

No. 6 Builder Cam 50-3018-6P3. For traverse lengths greater than 5½ in. and medium base diameter.

No. 8 Builder Cam 50-3018-8P3. Same as No. 6 except that it provides for slightly more taper.

No. 15 Builder Cam 50-3018-15P3. For large diameter packages (around 6 in.) only. Taper is much less than with other cams. Not recommended for use with highly elastic yarns.

The builder cam holder used for traverse lengths under 5½ in. (50-3017-P3) is not marked. The No. 4 holder (50-3017-4P3) stamped with a "4" is used for traverse lengths of 5½ in. and more.

Fig. 3. Four standard Builder Cams (right) and two Holders (left).

See our Catalog in TEXTILE WORLD YEARBOOK

*Reg. U.S. Pat. Off. November, 1947

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

23-7-3

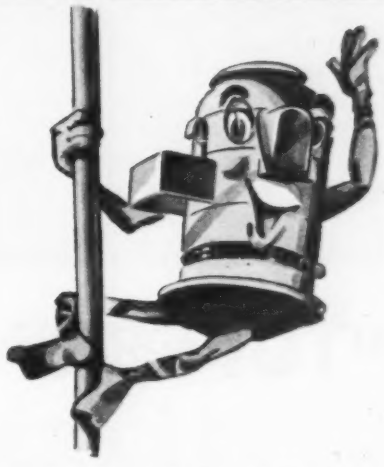
UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

"Which Squirrel-Cage Motor Shall I Buy?"

Open-Type? This general-purpose squirrel-cage motor meets about 9 out of every 10 application requirements; so chances are it's the design you'll select. Allis-Chalmers builds generously proportioned, rugged *open-type* squirrel-cage motors in sizes from 1 hp to the largest practical requirement.

Splash-Proof? Where operating conditions are conducive to entrance of particles or liquids into ordinary motors from either top or sides, Allis-Chalmers *splash-proof* squirrel-cage motors may be your best buy. They're designed to *exclude* top or side directed particles and liquids. Sizes 1 hp to the largest.



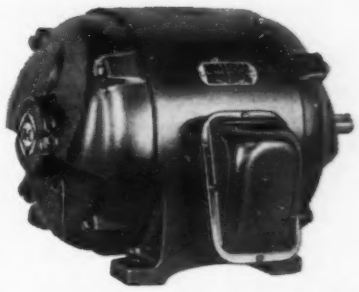
Vertical? or Flange-Type? *Either* can solve a space problem. *Vertical* motors (sizes 1 hp to largest) for vertical drives. *Flange-mounted* for side or angle drives. In both types bearings and closures are designed to prevent grease escapement. Mounting flange for attaching to your base can be provided.

Totally-Enclosed? Explosion-Proof? Completely weather-proof and fan-cooled, these motors are built to beat abrasive dust, dirt and corrosive fumes, or moisture conditions that cause windings in ordinary motors to deteriorate. *Explosion-proof type* for oil refineries, paint, varnish or lacquer plants, etc.; Underwriters approved; reduce hazards in explosive or dust atmospheres. Either type built from 1 hp and up.

Are Motor Decisions More Important Today?

YOU BET THEY ARE! One *obvious* reason is the need for keeping costs down. Another is that in the rush to fill demand much equipment is being misapplied; making it harder to maintain profits not alone today, but tomorrow, the next day and the next year—as long as misapplication continues!

That's why it's important to take a good look at motors — their characteristics — your equipment — power source and surroundings — *before* you buy and apply! If you're in doubt, don't take chances — call a motor expert! ALLIS-CHALMERS, MILWAUKEE 1, WIS. A 2327



1847 1947 A CENTURY OF SERVICE to Industry THAT MADE America Great

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One of the Big 3 in Electric Power Equipment-
Biggest of All in Range of Industrial Products

"TUFFER" Men Help Carders to get *Better Results*

HOWARD-MADE products, backed by 80 years experience in the manufacture of card clothing, are only part of the service we offer you. We know that mills welcome assistance that speeds up production, makes tough jobs easier, and increases efficiency.

That's why we invite you to talk over your problems with a Howard representative. You will find him qualified to help you get better carding results. Your dealings with him will be confidential in every way—and, of course, there's no obligation on your part.

Contact your nearest Howard plant or branch office.

HOWARD BROS. MFG. CO.
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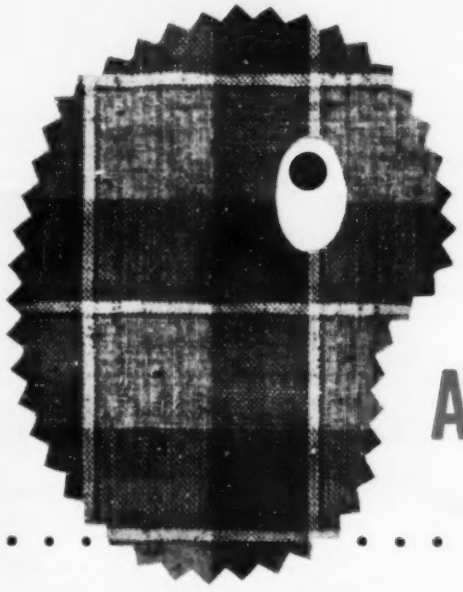
Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas
Direct Representation In Canada

A-5

TUFFER CARD CLOTHING **IMPROVES PRODUCTION ALL ALONG THE LINE**

do you know
what is the biggest development
Q. in cotton in 15 years?



it's wrinkle-resistant cotton . . .
just announced by DAN RIVER MILLS
achieved with Monsanto's unique
A. textile chemical, RESLOOM C

Not since the coming of shrinkage control and vat dyeing has anything so important to cottons occurred.

By impregnating the individual cotton fibers with Monsanto's Resloom C, Dan River finishing experts have been able to create a cotton fabric that *really resists wrinkling.*

This new fabric has a crisp, springy "hand" . . . and the wrinkles fall away like nothing ever seen before. Resloom will not wear away or wash away.

First developed, in an interesting new cotton tweed, Dan River expects to carry these new properties into cotton chambrays, ginghams, twills.

Here is an excellent example of what a planned program of cooperation between fabric creator and textile chemical manufacturer will yield.

MONSANTO
CHEMICALS — PLASTICS

For Resloom information address: MONSANTO CHEMICAL COMPANY, Textile Chemicals Department, 140 Federal Street, Boston 10, Massachusetts. Resloom: Reg. U. S. Pat. Off.

SERVING INDUSTRY . . . WHICH SERVES MANKIND

The *Only* Machine That Will Dye

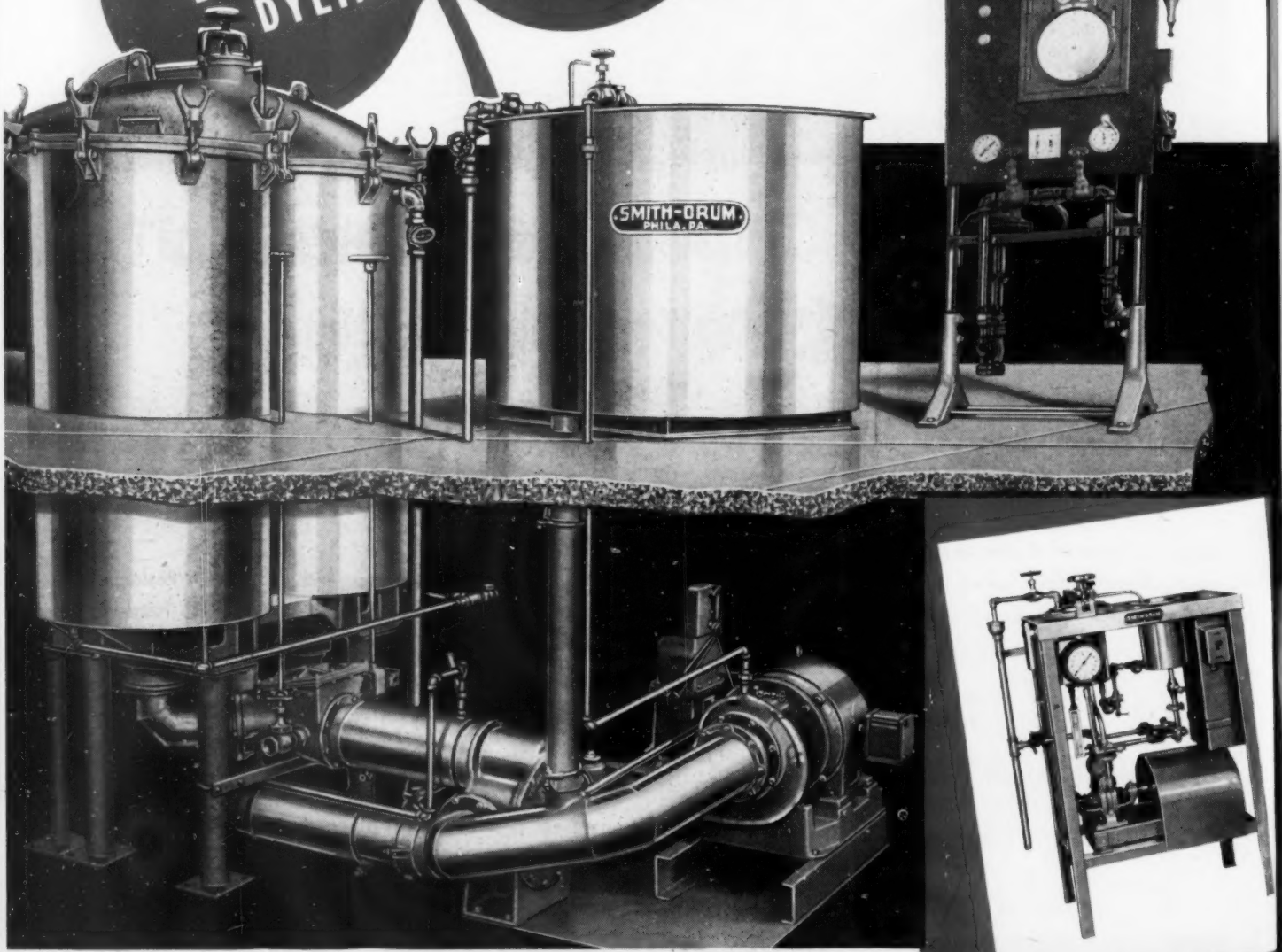
1, 4

Beams or Yarn Ca

SMITH-DRUM

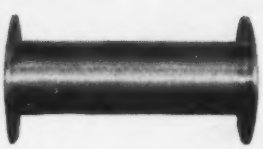
Clover Leaf

BEAM AND PACKAGE DYEING MACHINE

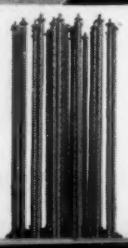


SAMPLE PACKAGE DYEING MACHINE
This machine, which dyes a single package, is for use in determining formulae to be used in larger machines. Sample is dyed under same conditions and control as in larger machines.

Stainless steel dye beams are manufactured by Smith, Drum for use with the Clover-Leaf Beam and Package Dyeing Machine.



Special package carrier supplied with Smith-Drum Clover-Leaf Machine. This is the type used with packages wound on large diameter tubes or springs.



1, 2, 3 or 4

Carriers Under *Identical* Conditions

This revolutionary Smith-Drum Machine makes it possible, for the first time, to dye as many as *four* beams or yarn carriers at once, in the same machine, with exactly the same liquor ratio as required to dye only *one!* This results in absolutely uniform dyeing . . . because each beam or package carrier is dyed at identical temperature, pressure, flow and with the same additions of dyestuffs.

When less than a full load is to be dyed, pressure flow and liquor ratio are automatically adjusted so that they remain the same as when dyeing a full load. Furthermore, pressure and flow can be varied at will by the operator, to allow for various sized beams.

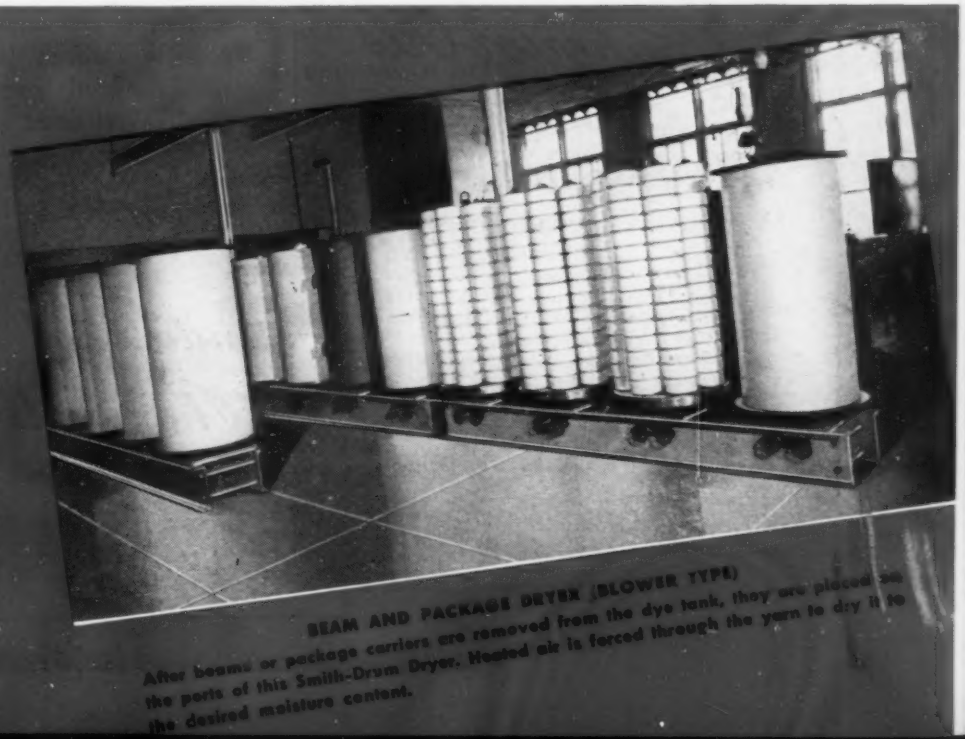
This machine not only assures uniform dyeing results but also permits definite economies in operation. It is equipped with valve to permit extraction of yarn by air pressure before it is removed from the dye tank.

Other Smith-Drum auxiliary equipment for preparing the yarn for dyeing and for drying the yarn after extraction is illustrated and briefly described below. Complete information will be sent you upon request. Write

SMITH, DRUM & COMPANY

Allegheny Ave. at 5th St., Philadelphia 33, Pa.

PACKAGE CRIMPING PRESS
This machine properly prepares the package for dyeing by crimping the edges of the package to aid penetration of the dye liquor at that point.



BEAM AND PACKAGE DRYER (BLOWER TYPE)
After beams or package carriers are removed from the dye tank, they are placed in the ports of this Smith-Drum Dryer. Heated air is forced through the yarn to dry it to the desired moisture content.

WITH Cyanamid SULPHONATED OILS

Yes! Cyanamid sulphonated oils will help you cut right through one of your most pressing problems. For when you use Cyanamid sulphonated oils, you put increased efficiency and dependable performance to work *cutting your costs* by improving your processing. For the absolute uniformity and high quality of Cyanamid oils—made possible through large-scale production methods—eliminate costly guesswork and help achieve excellent results every time.

A Wide Range of Superior Oils

is becoming more generally available as Cyanamid's channels of raw material supply continue to open up.

AMONG CYANAMID PRODUCTS FOR THE TEXTILE INDUSTRY ARE . . . AQUASOL* Sulphonated Castor Oils, NO-ODOROL* Finishing Oils, DECERESOL* OT Wetting Agents, Penetrants, Softeners, Finishes, Sizing Compounds, PARAMUL** 115 Water Repellent, and other specialties and Heavy Chemicals.

For low-cost chemical equivalent of distilled H_2O . . . FILT-R-STIL* Demineralizing Units.

**Trade-mark *Reg. U. S. Pat. Off.

Industrial Chemicals Division

AMERICAN CYANAMID COMPANY

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Westinghouse Fluorescent Lamps offer HIGH LIGHT OUTPUT to provide real SEE-ABILITY. Their low surface brightness minimizes direct glare. They provide excellent distribution of light, are cool burning, and duplicate most closely the color of OUTDOOR DAYLIGHT. To step-up production in your mill, plant or office, to reduce waste or spoilage, to help improve quality or product, to promote safety—it's to your advantage to provide good lighting—the kind synonymous with Westinghouse. Yes—for fluorescent lighting at its best, specify Westinghouse—the name you know in lamps!

Lamp Division, Westinghouse Electric Corp., Bloomfield, N. J.

Westinghouse lamps

FOR SEE-ABILITY

JOHNSON BRONZE GP GENERAL PURPOSE BEARINGS

Over 850 Standard Stock Sizes

Write for **FREE** *Catalogue*

Quick Delivery

● Delays in securing replacement parts are expensive luxuries. Idle men and machines because of breakdowns are items few companies can afford. When it's bronze bearings you need there is no excuse for waiting. Simply call your local Johnson Bronze warehouse or your local Johnson Bronze Distributor.

Be sure to specify Johnson G. P. Bearings. From our list of over 850 Standard Stock sizes you can buy exactly according to your needs. Every bearing is completely machined, ready for immediate installation. Alterations such as oil holes, grooves or slots are easily, economically added.

The next time you need cast bronze bearings compare your required sizes with our complete stock list. Give us the opportunity to prove our excellent service. The bearings will prove their quality through performance.

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The MOST COMPLETE SLEEVE BEARING SERVICE in the WORLD

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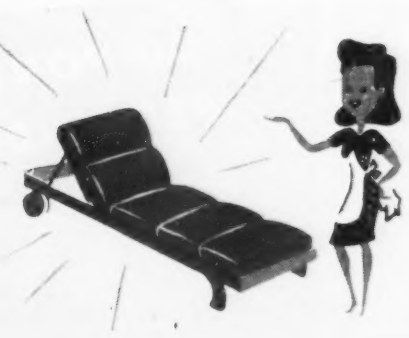
MAKE THE FABRICS WOMEN DREAM ABOUT

WITH BEAUTIFUL, MAGICALLY PRACTICAL

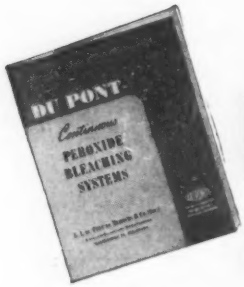
Firestone *Velon**

Velon fibre gives you magic selling-power . . . because for the first time "impractical" colors become practical, woven designs more beautiful . . . because *Velon* is non-absorbent, can be cleaned so quickly and completely . . . because the wonderful fabrics you can make defy dirt, staining, shrinkage, fading, wear and age. *Velon* will expand your production. Write Firestone, Akron, for free full-color booklet on *Velon*, and for technical assistance.



*TRADE MARK

BEST TODAY—STILL BETTER TOMORROW



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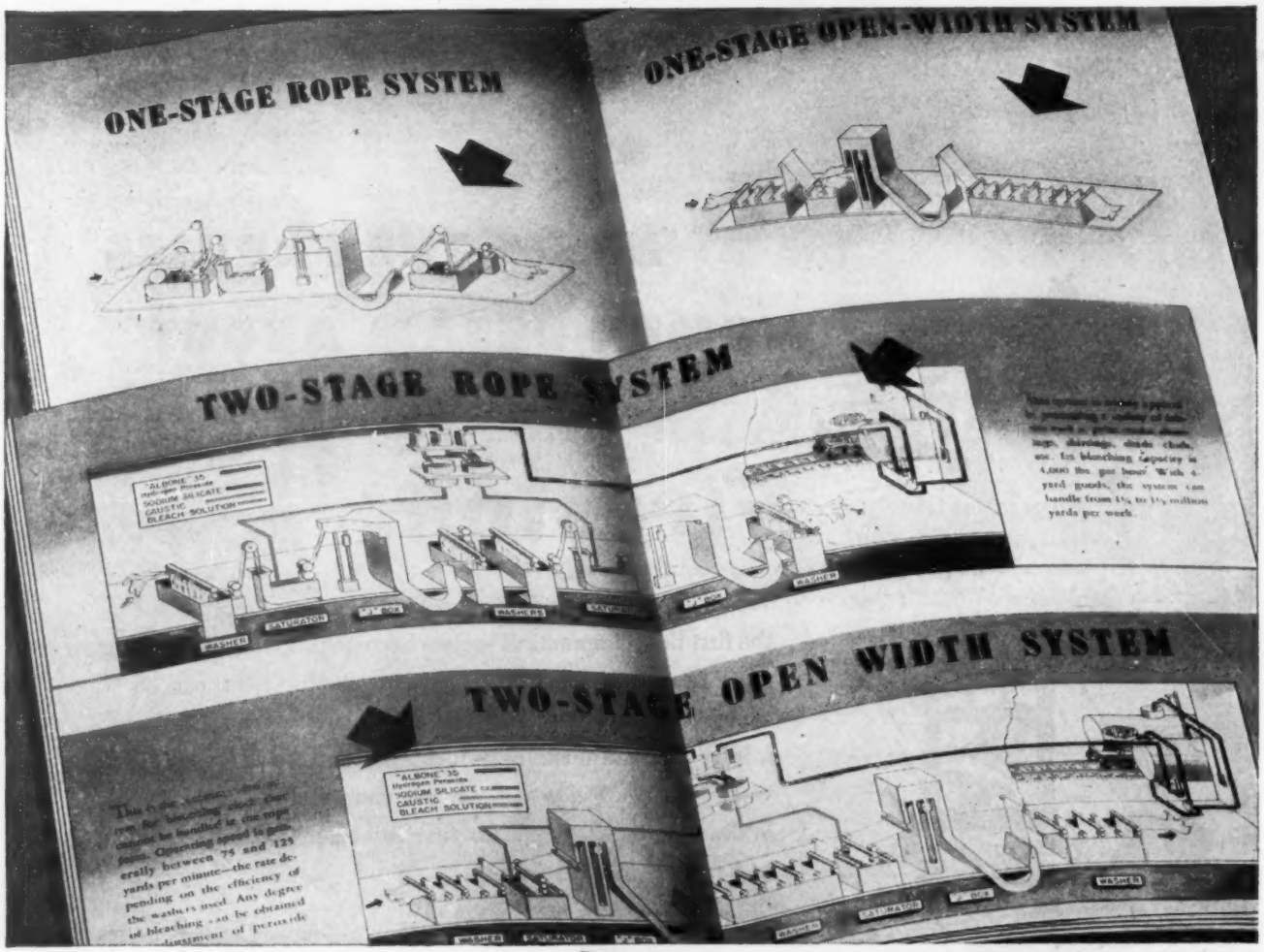
ILLUSTRATES DU PONT CONTINUOUS PEROXIDE BLEACH SYSTEMS

For Better, Faster Bleaching of Cotton Piece Goods at Lower Over-all Costs

Now is the time to improve your bleachery so that it will return the most in the way of fast production of quality goods at low cost. You can do it with one of the cost-saving, production-boosting Du Pont Continuous Bleaching Systems which can be specifically designed to meet your production requirements. Typical layouts and other information are given in this new book, copies of which can be obtained by writing or mailing the coupon below to E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.



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Electrochemicals Department
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Please send my copy of "Du Pont Continuous Peroxide Bleaching Systems."

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BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

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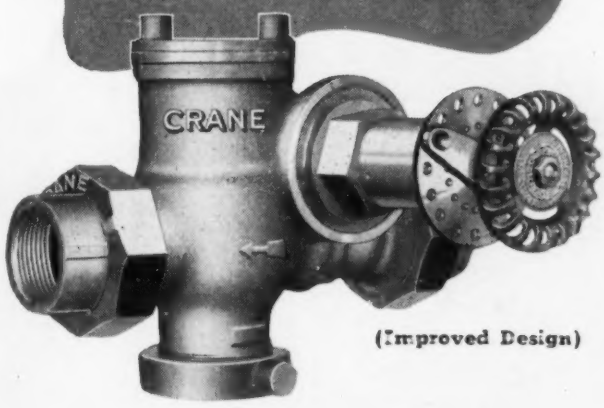
AVAILABLE FOR IMMEDIATE DELIVERY . . .



(Improved Design)

NO. 960 BRASS PRESSURE REGULATOR

1. For initial steam or air pressures up to 250 lbs., reduced to within 80%. Sizes up to 2 in.
2. Can't wear out; every working part is renewable. Piston operates in removable cylinder liner.
3. Can be furnished for any of four service pressure ranges: 1 to 10, 5 to 30, 20 to 100, 90 to 200 pounds. Setting within each pressure range is by simple hand-wheel adjustment. Operation is completely automatic.
4. Maintains uniform reduced pressure at all times. Pressure cannot build up.
5. Simplified design: has minimum working parts. Fully accessible for inspection. Easy to service.

How to Choose the Right Size

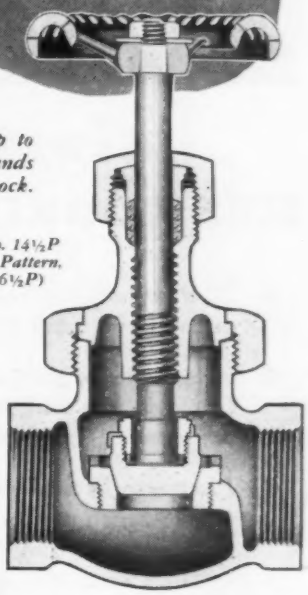
For best results, having the right size pressure regulator for your needs is all-important. Get this folder with its handy size selector, and other data to help you order. Or, see your Crane catalog, p. 410-411.

WRITE FOR DESCRIPTIVE FOLDER AD-1597

BEST FOR TOUGH SERVICES!

Working Pressures: *Up to 150 pounds steam; 300 pounds cold water, oil, or gas, non-shock.*

Cat. No. 14½P (Angle Pattern, No. 16½P)



150-POUND PLUG TYPE DISC BRASS GLOBE AND ANGLE VALVES

WHERE TO USE THEM

Recommended for all spots where flow is throttled, and where operating conditions are severe. Ideal for soot blower, blow-off, boiler feed, drip and drain lines.

WHY THEY GIVE BETTER SERVICE

They are designed throughout for tough work. Plug type disc and seat provide extra-wide bearing surfaces for maximum resistance to wire-drawing and damage by foreign matter. Taper of disc permits easy regulation of flow.

Seating materials (Crane Nickel Alloy to Exelloy) are harder, tougher, and stronger than metals ordinarily used in brass valves. They have higher resistance to wear, temperature, galling, and scoring. See your Crane catalog, p. 31 or

WRITE FOR DESCRIPTIVE CIRCULAR AD-1668

CRANE CO., *General Offices,* 836 South Michigan Avenue, Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

EVERYTHING FROM . . .

VALVES
FITTINGS
PIPE

CRANE

PLUMBING
AND
HEATING

FOR EVERY PIPING SYSTEM

BARBER-COLMAN

TEMCHRON

electronic
SIZE COOKING CONTROL

- *Electronically* controls the cooking temperature at any point from 100°F to 210°F.
- *Automatically* governs the length of time for bringing the cold size mixture up to cooking temperature—adjustable from 15 to 90 minutes.
- *Electronically* sets and maintains the temperature at which the cooked size will be held until it is removed from the kettle — within a range of 100°F to 210°F.
- *Automatically* times the length of the cooking cycle for a predeterminable period of from 20 to 180 minutes.

LIGHTS INDICATE...

- When the size mixture is being raised to cooking temperature.
- When the size is cooking.
- When the cooking is completed and the mixture is at the desired holding temperature.

SIZE COOKING CONTROL

TEMCHRON, the only *completely electronic* time-temperature cycle controller, provides hitherto unattainable accuracy, flexibility, and reliability. Identical cycling is assured from batch to batch, for any dial settings, yet simple adjustments permit cycle changes as required by different size formulas. Changes in any part of the cycle — warm-up time, cooking temperature, cooking time, or holding temperature — can be made *by simply resetting calibrated dials.* Write today for Bulletin F-3054 describing details and applications of TEMCHRON, *another Unit of Complete Slasher Control by Barber-Colman.*

Barber-Colman Company

45 YEARS EXPERIENCE SERVING TEXTILE MILLS

ROCKFORD ILLINOIS BOSTON MASSACHUSETTS GREENVILLE SOUTH CAROLINA GREENSBORO NORTH CAROLINA ATLANTA GEORGIA

EASY *Lint Removal* IMPROVES QUALITY

HANSEN *Couplings*

SIMPLIFY HOSE CONNECTIONS

To maintain a high quality product you must keep your carding machines, spinning frames and looms free of fly and lint. The easiest way to do this is by using the Hansen Quick Coupling and Air Blow Gun; so quick and convenient your operator will use it often.

The Hansen Coupling contains an automatic valve that shuts tight as soon as the hose plug is pulled out. No unscrewing of hose connections, no shut-off valves . . . and no lost air.

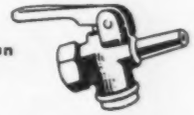
You can use shorter hose lengths, which are easier to handle, because connecting and disconnecting is so easy. The coupling swivels all the way around, so there are no kinks in the hose.

There are Hansen Couplings to fit your present hose line. For new installations we recommend ½" pipe line, with hose size ½" I. D., 1" O. D. Parts and part numbers for new installations are shown at right. Write for catalog and details.

Socket
No. 5300

Hose Clamp Plug
No. 5-PP19

Hose Clamp
No. HC-2P19



Air Blow Gun
No. 25

10" Extension Nozzle
No. 26

HANSEN REPRESENTATIVES

NEW ENGLAND STATES:
A. D. Geiger, Belmont, Mass.

EASTERN, SOUTHERN STATES:
B-R Engineering Co., Baltimore, Md.

NORTHERN OHIO:
F. & W. Ursem Co., Cleveland, Ohio

SOUTHERN OHIO, WEST VA., KY.:
Steinhagen Airline Products, Dayton, O.

NORTHERN ILL., EASTERN IOWA:
Norris Engineering Co., Chicago, Ill.

INDIANA, WISCONSIN:
Neff Engineering Co., Ft. Wayne, Ind.

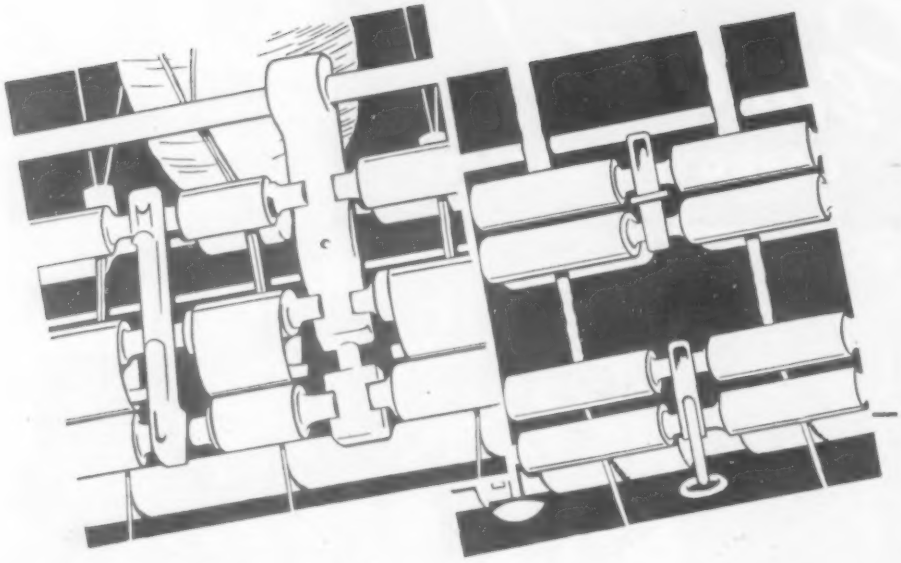
CENTRAL WESTERN STATES:
John Henry Foster Company, St. Louis, Mo., Minneapolis, Minn.

WESTERN, SOUTHWESTERN STATES:
Burklyn Co., Los Angeles, Calif.

NORTHERN CALIF., NEVADA:
H. E. Linney Co., Oakland, Calif.

MICHIGAN:
Wm. H. Nash Co., Detroit, Mich.

THE *Hansen* MANUFACTURING COMPANY
4031 WEST 150TH STREET • CLEVELAND 11, OHIO



Are you on cotton

Here's a synthetic cot that

Armstrong's NC 727 Accotex Cot . . . the most widely used general-purpose roll covering

Another covering in the Armstrong Line is the NC 727 Accotex Cot. Because it consistently produces high quality yarn, it is now being used by more mills than any other roll covering.

These cots give you the advantages of both synthetic rubber and cork. This combination of toughness and high friction provides the maximum amount of eyebrow resistance possible today in a synthetic cot. It also results in better drafting for high yarn strength with less slicking up. This means that Armstrong's NC 727 Accotex Cots do not need the frequent rebuffing that shortens cot life.

NC 727 Accotex Cots spin quality yarn longer than "straight" synthetic covers. They have a long initial service life. And they can be rebuffed as many as five or six times. Their resilience provides quick recovery from hard ends. They reduce lapping because they have little affinity for textile fibers and are non-sweating.

All Accotex Cots offer these extra advantages

GOOD START-UP — Accotex Cots are non-thermoplastic and resist flattening.

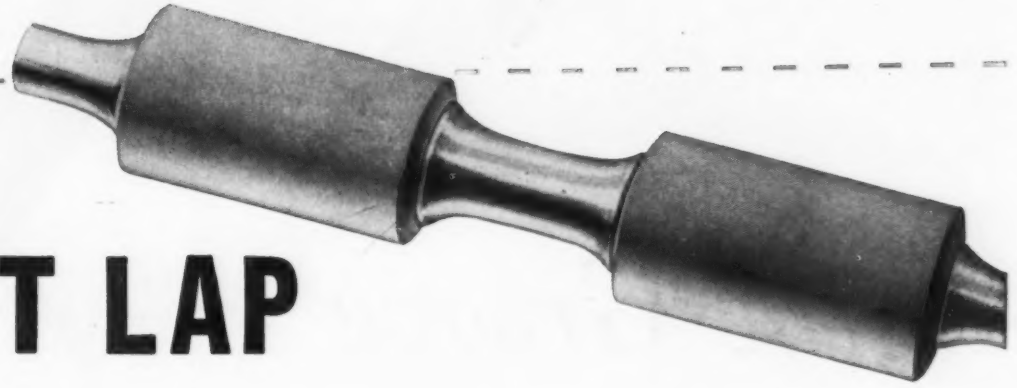
SOLVENT RESISTANCE—Accotex Cots are not affected by oil, water, dyes, or commonly used textile solvents.

SEAMLESS CONSTRUCTION—Accotex Cots have no seams, no structural weaknesses to cause failure in service.

QUICK ASSEMBLY — Accotex Cots are ready glued for easier, quicker assembly.

CORK COTS
ACCOTEX APRONS
ROLL SHOP EQUIPMENT

running wool or synthetic fibers system equipment?



WON'T LAP

Where lapping is a serious consideration when running wool or synthetic fibers on cotton system equipment, Armstrong's new J490 Accotex Cot is the roll covering to use. It has greater resistance to top roll laps than any other roll covering.

In drawing and roving operations, for example, you don't have to worry about fibers being pulled out of the sliver or roving and accumulating on the top roll.

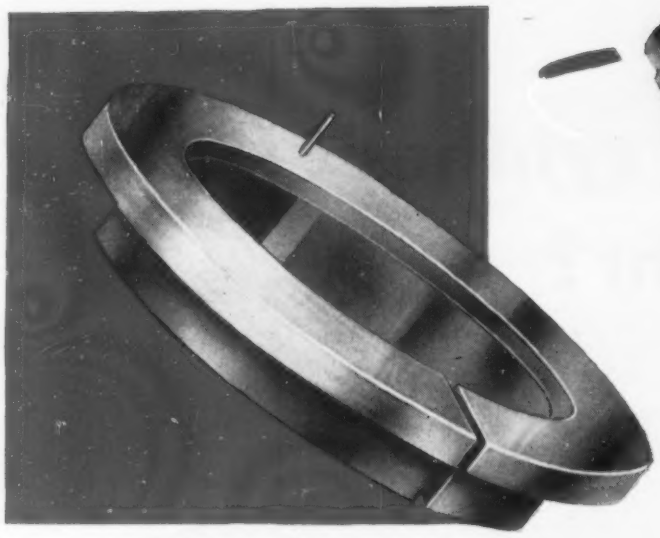
In the spinning room, Armstrong's new J490 Accotex Cot helps send broken ends down to the scavenger roll where they belong. On long staple cottons, this superior covering helps keep long, wiry fibers spinning smoothly. Such fibers tend less to curl up and wrap around a J490 top roll.

The specially developed synthetic rubber compound used in the J490 cot is not affected by temperature and humidity changes. It won't sweat.

You can count, too, on extra long service from J490 cots. Their tough synthetic rubber compound has a long initial life. Service can be extended by rebuffing these cots as many as five or six times. For maximum freedom from eyebrowing, J490 cots should be used with revolving clearers.

Test Armstrong's J490 Accotex Cots on your frames now. See how they resist top roll laps and help produce better quality yarn. Ask your Armstrong representative for samples, prices, and additional information. Or write today to Armstrong Cork Co., Textile Products Dept., 3611 Arch St., Lancaster, Pa.

ARMSTRONG'S ACCOTEX COTS



In the Groove

Accuracy and uniformity are essential in making ring holders, bobbin gears and bolsters. Skilled workmanship and quality materials mean that all Kluttz parts are machined inside and out to exact tolerances . . . that your rings and bobbins run smoother and last longer.

KLUTTZ CAST IRON RING HOLDERS are unsurpassed for smoothness, roundness, and durability. Available in sizes to fit any spinning frame.

KLUTTZ CAST IRON BOBBIN GEARS have the clean-cut, properly beveled teeth that make them run as true as higher-priced cut tooth gears.

KLUTTZ CAST IRON BOLSTERS are true inside and out.

For today's full measure of value, specify Kluttz.

JOHN H. FOARD
NEWTON, N. C.
Carolinas Rep.

HARRIS MFG. CO.
ARTHUR H. HARRIS
P. O. BOX 1982, ATLANTA 1, GA.
Georgia, Ala., Tenn., Miss. Rep.

KLUTTZ MACHINE & FOUNDRY CO.
GASTONIA, N. C.

LEVELING OFF TO A FAST FINISH . . .

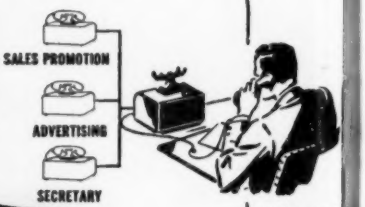
WITH *Calcofast** WOOL DYES!

CALCOFAST wool dyes produce consistently level, uniform shades with excellent fastness properties. Their qualities of good penetration and superior fastness to light, washing, sea water, perspiration, carbonizing, and fulling, make them particularly desirable in fashionable shades for sportswear fabrics, suitings, neckwear, knitting yarns for sweaters or bathing suits, and hosiery yarns.

Ask your Calco representative for full details on this group of metallized dyes for carbonized wool. Our Technical Service Staff will gladly assist you with the application of Calcofast wool dyes. CALCO CHEMICAL DIVISION, AMERICAN CYANAMID COMPANY, Bound Brook, New Jersey. New York, Chicago, Philadelphia, Boston, Charlotte, Providence.

*Trade-mark

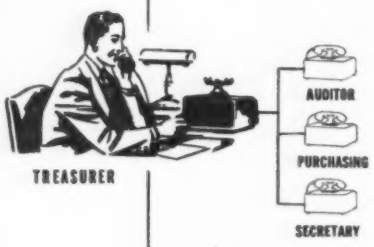
Dictograph
INTERCOMMUNICATION
The INDIVIDUALLY-ENGINEERED SYSTEM



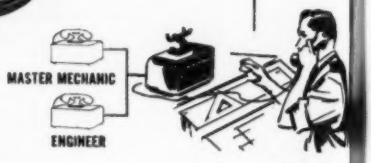
PRESIDENT

VICE PRES

A Great LABOR-SAVING SYSTEM for textile mills!

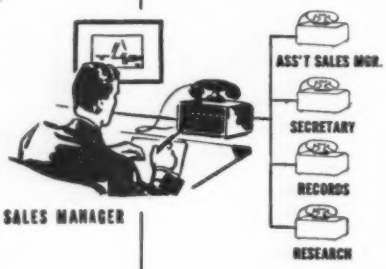


TREASURER



MAINTENAN

• DICTOGRAPH Intercommunication brings to a textile mill a full measure of labor-saving efficiencies without which no business can be completely competitive. It keeps executives in immediate touch with all departments. It enables every staff member to do more in less time—provides a host of exclusive executive features which decidedly increase day-after-day productivity.

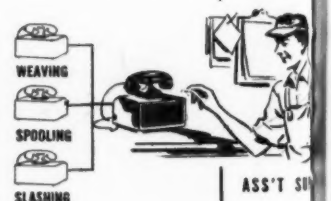


SALES MANAGER

RAW MATE
PURCHAS

The major textile firms of America bear witness to this by their use of DICTOGRAPH . . . and certainly you, too, should have DICTOGRAPH aiding your organization in today's business battles. Send the coupon below for full details, or better still, ask for a demonstration right on your own desk, under actual working conditions. Naturally, there is no obligation.

CHEMIST



ASS'T SU

This layout shows a typical DICTOGRAPH installation in a textile mill. Complete inter-communication is provided between all key points. Separate intra-department contacts afford department heads access to information of special interest within the department. *Your* DICTOGRAPH system, large or small, will be designed to meet your individual working requirements.

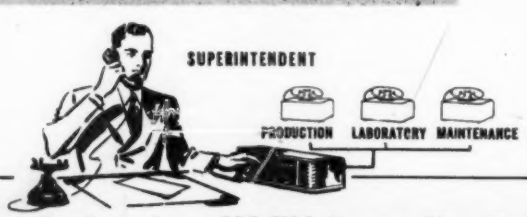
DICTOGRAPH PRODUCTS, INC., 580 Fifth Ave., New York 19, N.Y
Gentlemen: ☐ Please send me free copy of your brochure "Meet the Composite President of 10,000 Major Companies."
☐ I'd like a demonstration of DICTOGRAPH. No obligation.

Name .....

Company .....

Address .....

City .....*Zone*.....*State* .....



Dictograph Products, Inc. • 580 Fifth Avenue, New York 19

Sales and Service in principal
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VICE PRES

MAINTENAN

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e in principal
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, 1947

Rubber Rolls

"No. 1" is the universal symbol for Top Grade Crude Rubber. But there is a superlative grade that is even better than No. 1. It is the world's finest Crude Rubber —from selected plantations of outstanding stock—for which Stowe-Woodward, Inc. pay a premium to use in your rolls. *Its symbol is "IX".* IX Premium Rubber is processed with Stowe-Woodward's IX Premium Craftsmanship to give you the finest rubber rolls that money can buy.

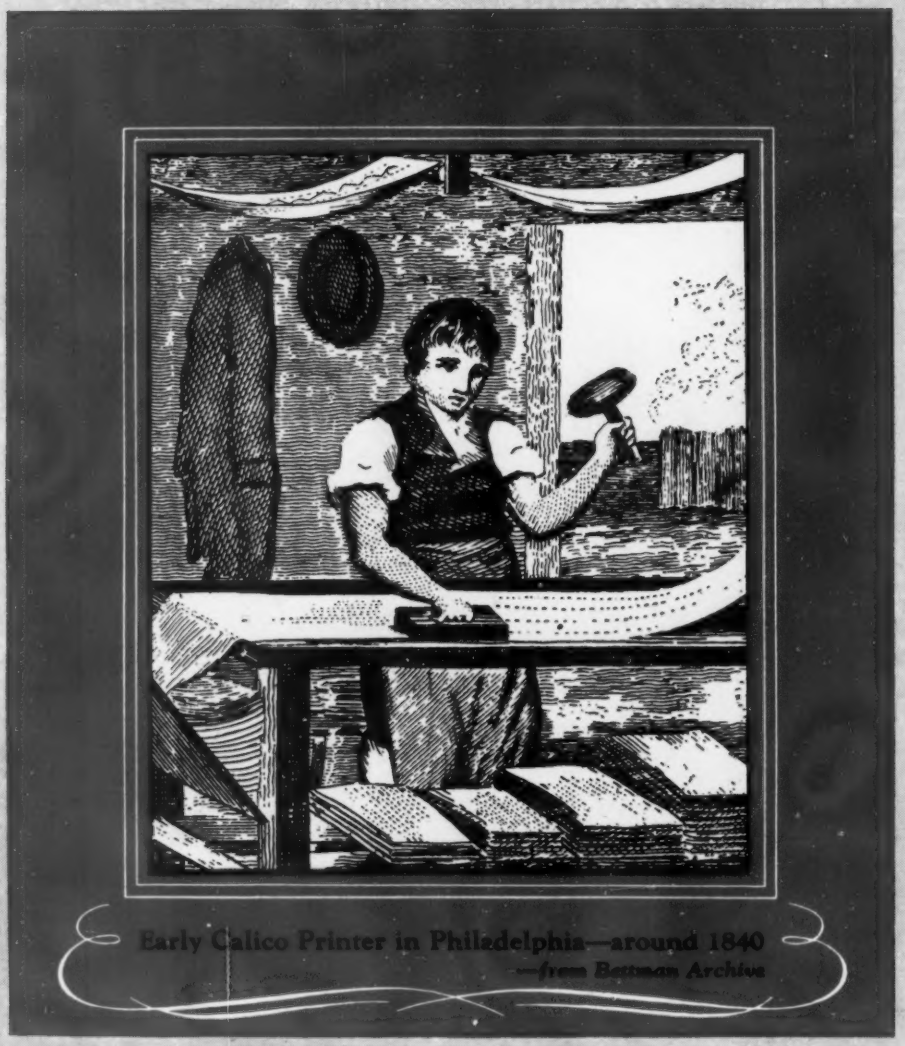
STOWE-WOODWARD, INC.

Craftsmen in rubber

NEWTON UPPER FALLS 64, MASSACHUSETTS

NEW YORK OFFICE, WOOLWORTH BLDG., NEW YORK 7

Stowe-Woodward Rolls are made on the West Coast by Huntington Rubber Mills, Inc., Seattle, Washington



Early Calico Printer in Philadelphia—around 1840
—from Bettman Archive

The speed and dependability of Rapidase in the de-sizing of cottons, rayons and mixed goods are important factors in preparing today's fabrics for dyeing, printing, and bleaching. Its effectiveness over a wide range of pH and temperature is especially desirable in modern finishing practice.

RAPIDASE

WALLERSTEIN COMPANY, INC. **180 Madison Ave., New York 16, N. Y.**

Cold Facts...

...ON LUBRICANT PERFORMANCE

This special refrigerating apparatus at Sinclair Laboratories tells an important story every day to research experts and refinery control technicians.

The thermometers, shown above inserted in lubricating oil samples, record temperature as cold is increased in the special refrigerating apparatus. Trained observers check the samples frequently, test for pour point. Sinclair, thus, makes sure that its lubricants retain full protective qualities even at sub-zero temperatures . . . when your specific application demands.

Such constant manufacturing control and research assures you that famous Sinclair lubricants . . . and all new Sinclair products . . . will give outstanding performance to meet your most exacting requirements.

Sinclair Textile Oils

LILY WHITE OILS

In grades to suit all spindle speeds, loads and operating conditions

Light color, long life

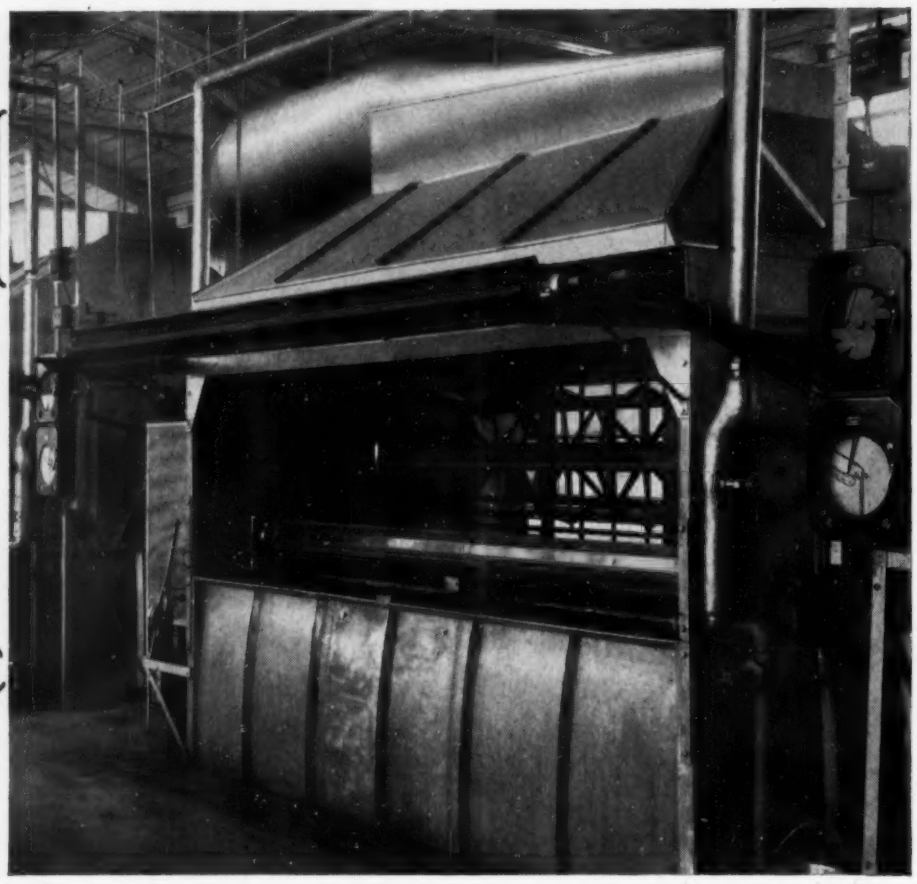
SINCLAIR REFINING COMPANY • 630 FIFTH AVENUE, NEW YORK 20, N. Y.

SINCLAIR

Lubricants for Industry

FINEST CRUDES + EXPERT RESEARCH and MANUFACTURING CONTROL = OUTSTANDING PERFORMANCE

You'll make no mistake when you press this button!



PRESS the starter button—and watch that panel of Taylor Fulscope Time Schedule Temperature Controllers take over! They're making a battery of Rodney-Hunt wool piece dyeing machines deliver top quality every single time for Marshall Field's Fieldcrest Division at Spray, N. C. And mistakes can't happen because they do the job *automatically!*

Here's what happens at the press of the button. The Fulscope Time Schedule Controllers let steam into the dye kettles and control the rate of rise to the predetermined temperature. Then they maintain that temperature precisely during the hold period until the end-of-cycle signal flashes. For an add period, the operator just presses the button again. When the shade is matched, he presses the return-to-start button, shutting off the steam and returning the cam to start position. He can change the timing with the same cam merely by speeding up or slowing down the cam movement.

Taylor Time Schedule Controllers not only cut operating costs by saving you money on steam and dyestuffs but also assure uniform dyeing conditions. This is only one of many ways you can keep quality up and costs down with Taylor Accuracy. Ask your Taylor Field Engineer! Or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Ontario.

• • •

Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

Significant NEWS...

For Textile Mill Owners & Operators

Same Location...
Same Personnel...*Plus!*

HERE is an announcement of utmost interest to textile mill owners and operators throughout the nation. Henderson Foundry and Machine Company, one of the largest manufacturers of textile machine parts in the South, will henceforth be operated under the name of Southern States Equipment Corporation.

There will be no change in our personnel. There will be no change in our location. There will be no change in the quality and careful workmanship you have always associated with Henderson products.

There will be this change. In addition to the "Know-how" of textile engineers, we can now offer you the ability and "Know-how" of field-trained electro-mechanical engineers. In addition to providing you with textile machine parts manufactured to stock patterns, we are now able to offer solutions to your problems of electro-mechanical design **and** construction!

Significant, indeed, to textile mills is the combining of the Henderson name, its plant and facilities, with those of one of the major manufacturers of electrical transmission and distribution equipment. Significant because of the increased service it now enables us to render.

Call on us TODAY. Our engineers **solicit** your problems of a textile, mechanical, or electrical nature.

HENDERSON FOUNDRY & MACHINE CO.
(A Division of Southern States Equipment Corporation)
HAMPTON, GEORGIA
Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

One of a series *of messages to help you increase your understanding of business paper advertising, and its effect on your business.*

Why you and your advertising manager are partners

FROM WHERE YOU SIT, advertising may look like the "glamour department" of your company—necessary, of course, but pretty far removed from the hard-headed realities of the production line.

But take a closer look. In one respect, the advertising manager's job bears a striking resemblance to your own.

You're production-minded. You're concerned with anything that will improve plant procedures, speed up assembly time, prevent waste, and reduce the manufacturing cost per unit.

And that is precisely where you walk arm-in-arm with your advertising manager. Because he thinks the same way about the *manufacture of a sale.*

The whole process of selling and distribution are his assembly line. And every time he can reduce the unit cost of a sale by so much as a few cents, he increases your company's chance to show a profit.

Ask him for a definition of advertising, and he will probably tell you that it is simply *mechanized selling,* a machine that multiplies the productive capacity of the sales force — seeking out prospects, arousing their interest, creating a preference for the things your company makes.

And when it is concentrated among the hand-picked readers of business papers, advertising becomes the most efficient machine this partner of yours has found for lowering the cost of producing a sale.

What are the ten ways to measure the results of your business paper advertising? You'll find the answers in a recent ABP folder, which we'll be glad to send you on request. Also, if you'd like reprints of this advertisement (or the entire series) to show to others in your organization, you may have them for the asking.

TEXTILE INDUSTRIES

is one of the 129 members of The Associated Business Papers, whose chief purpose is to maintain the highest standards of editorial helpfulness—for the benefit of reader and advertiser alike.

PIVOTAN

AMERICA'S FINEST LEATHER BELTING

These are no idle words, as Textile manufacturers who have tried and proven the superior quality of PIVOTAN will readily tell you.

Processed and manufactured from start to finish with the idea of doing one job well, *low-stretch, extra-grip, long-service* PIVOTAN gives that *extra measure* of service textile manufacturers are seeking.

SOUTHERN BELTING COMPANY

Manufacturers & Warehouse Distributors

LEATHER BELTING · RUBBER BELTING · V-BELTS & SHEAVES · FIBER & METAL PULLEYS · ROCKWOOD-SOUTHERN PIVOTED MOTOR DRIVES · WESTINGHOUSE MOTORS

ATLANTA GEORGIA

Greater Dimensional Stability Assured in Fabrics with high content of *Lanese**

It is well recognized that Lanese . . . trademark for Celanese* synthetic staple fiber made from cellulose acetate . . . has the property of increasing the dimensional stability of a fabric in wet cleaning or washing. Under the varying conditions of humidity which experience shows are particularly detrimental to drapery fabrics this stability becomes exceptionally important. It is generally accepted in the textile industry that the greater percentage of Lanese in a fabric, the greater its dimensional stability.

POINTERS TO LANESE

Greater versatility of weaves.

Improved draping qualities.

Appreciably less waste . . . quality scientifically controlled.

Exceptionally stable price structure . . . eliminating need for hedging.

Greater dimensional stability.

*Celanese** *Lanese**

SYNTHETIC STAPLE FIBER

*Reg. U. S. Pat. Off.

CELANESE CORPORATION OF AMERICA, 180 MADISON AVE., NEW YORK 16, N. Y.

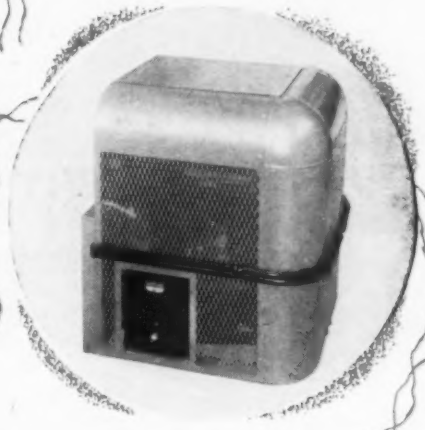
Branch Offices: PHILADELPHIA 7, 12 South 12th Street • CHARLOTTE 2, 1106 Liberty Life Building • BOSTON 10, 140 Federal Street

From motor pulley to twister package

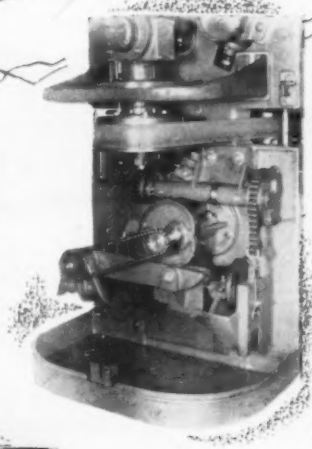
HERE'S PERFECT POWERING

on the Atwood Ring Twister

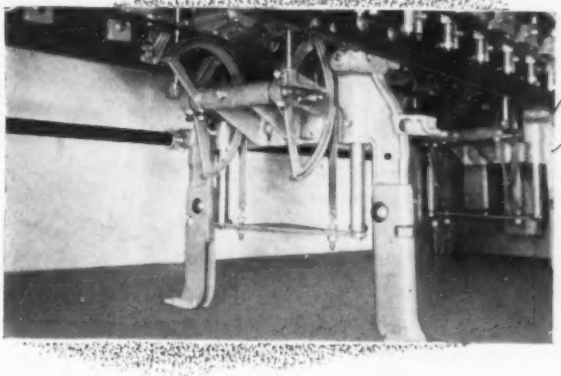
Grille-ventilated motor, with 3-point suspension and automatic belt takeup, powers single endless, lapless belt which drives 100 spindles at uniform spindle speed.



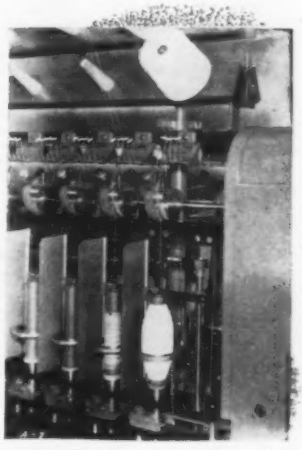
Matched spiral bevel gearing and chain drive give smooth operation of twist gearing. Only one gear to change when changing twist within the range of any twist constant. Geared end is totally enclosed.



Worm and worm gear of builder motion are enclosed in dust-tight housing and operate in oil bath. Eccentric adjustment eliminates backlash.



Lifter rod unit produces smooth ring rail motion. Segments, spring steel straps and lifter rods move in vertical line through bearings which are integral part of middle stand.



Spindle is integrally connected with automatic stop motion so knots can be tied in single ends, avoiding roller laps and short plies. Other spindles keep producing.

For doubling and twisting in one operation, consider the many advantages of the Atwood Model 10 Ring Twister. Send for bulletin.

ATWOOD DIVISION

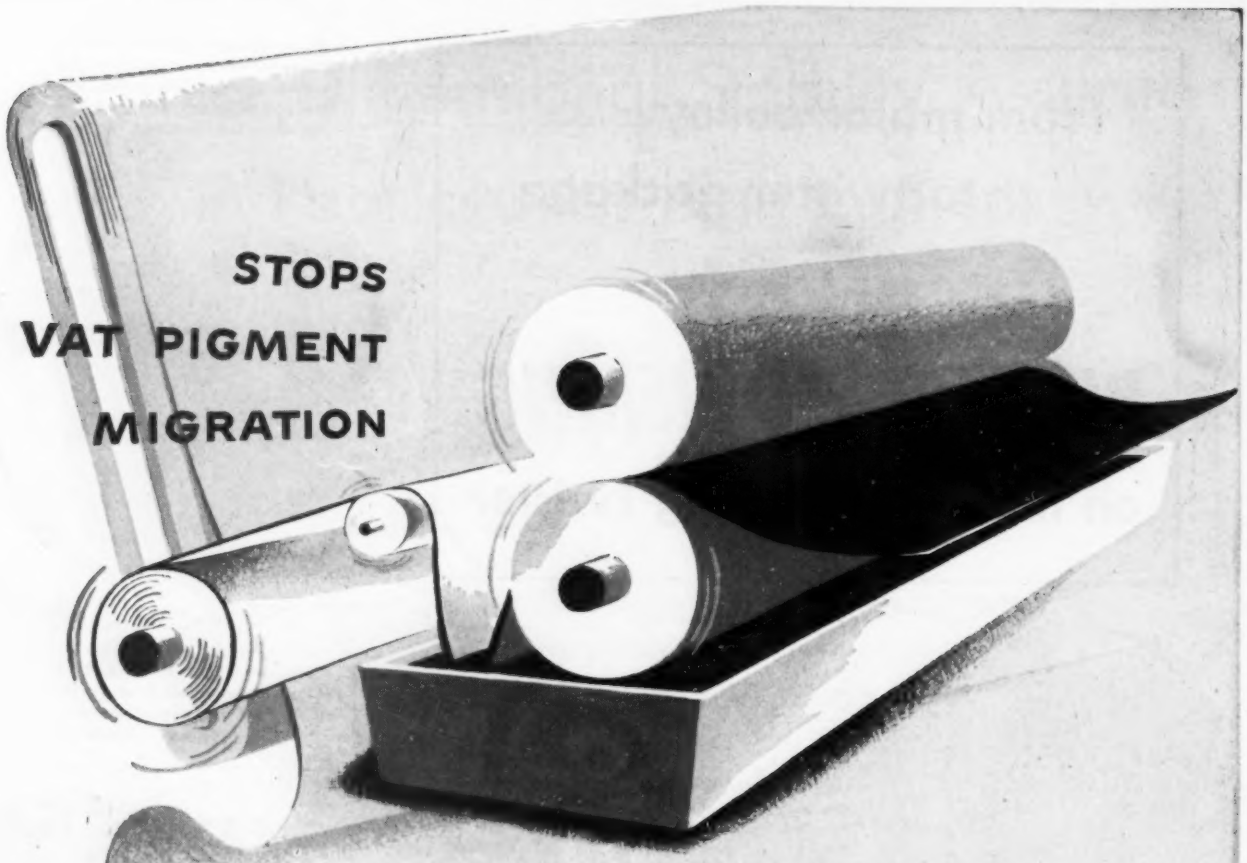
STONINGTON, CONN.

Universal Winding Company

ATWOOD

Reg. U. S. Pat. Off.

Providence • Boston • Philadelphia • Utica • Charlotte • Atlanta • Chicago • Los Angeles • Montreal • Hamilton
Manchester, England • Paris, France • Basle, Switzerland. Agents in every principal textile center in the world.



STOPS VAT PIGMENT MIGRATION

HERE IS A RECENT DEVELOPMENT in pigment pad vat dyeing. A little Ceglin in this padding solution improves color absorption—eliminates flushing of the pigment from the surface during reduction—stops migration.

Ceglin is used for dyeing spun rayon without changing the hand. Other distinctive finishes can be obtained simultaneously with the dyeing by varying the type and amount of Ceglin.

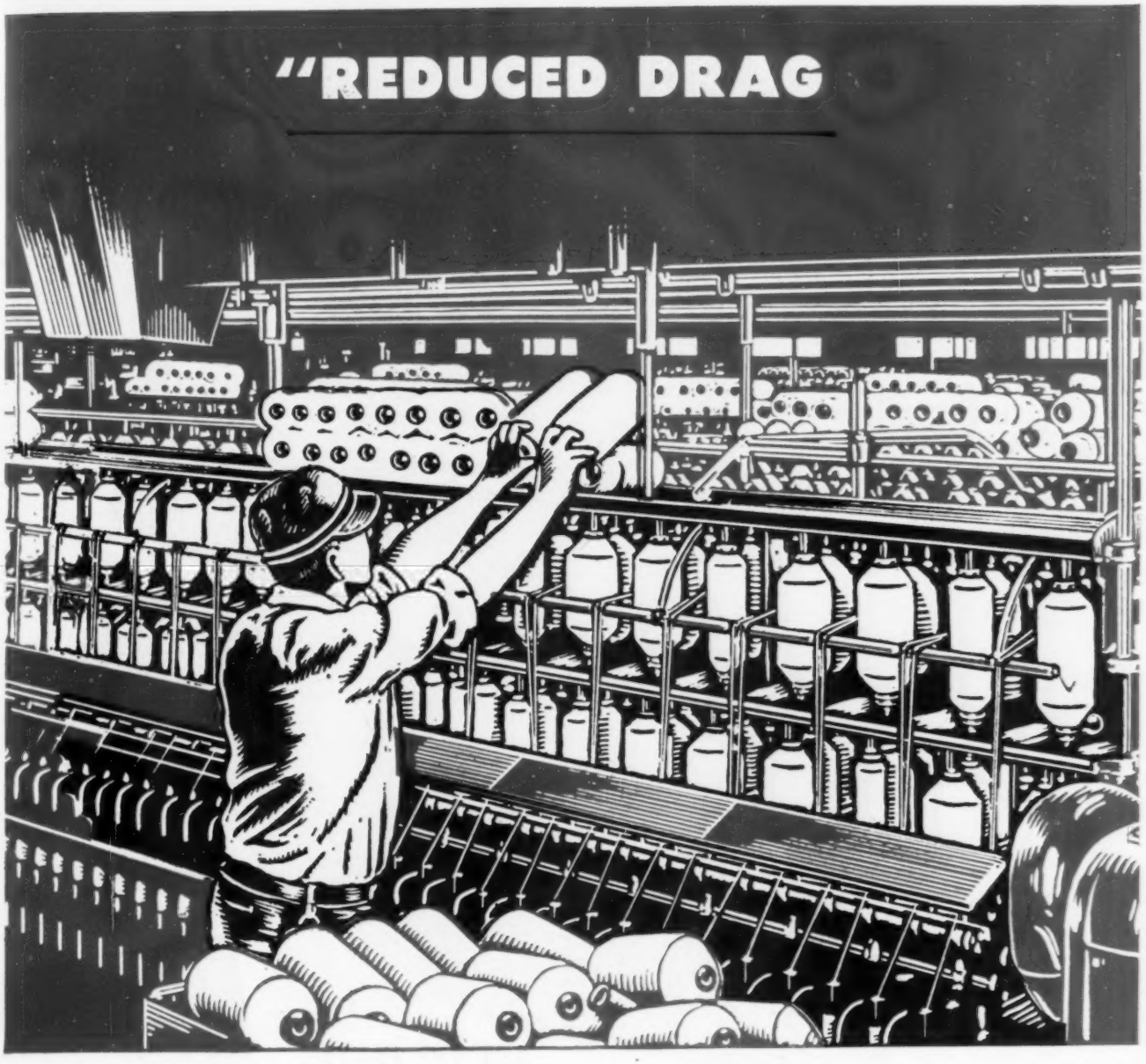
Ceglin increases the intrinsic value of fabrics

- **provides a finish of distinguished character, making possible a wide range from softness to crispness.**
- **permanent and durable through repeated laundering.**
- **aids in the stabilization of shrinkage and stretching.**
- **promotes tensile strength.**
- **increases resistance to slippage or distortion.**
- **improves resistance to abrasion.**

SYLVANIA® TEXTILE FINISHES

***Made only by* SYLVANIA DIVISION**
AMERICAN VISCOSE CORPORATION
Manufacturers of cellophane and other cellulose products since 1929
General Sales Office: 122 E. 42nd Street, New York 17, N. Y. *Plant:* Fredericksburg, Va.

"REDUCED DRAG



...with Tycol spindle oil"

TYCOL
INDUSTRIAL LUBRICANTS

Pittsburgh • Philadelphia
Boston • Charlotte, N. C.

TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N. Y.

"Not a single tube lost . . .
Reduces spindle drag . . .
Reduces bolster losses . . .
Steps up production . . .
Cuts down on maintenance costs . . ."

— says a textile mill operator. "With Tycol Spindle Oil," he goes on, "we're able to operate continuously at top speed—and we don't have to worry about the oil losing its body at operating temperatures."

For further information about Tycol Textile Oils, get in touch with your nearest Tide Water Associated office.

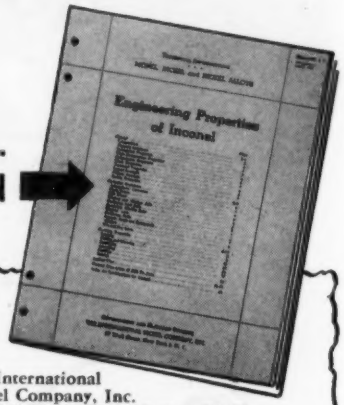
LUBRICATION—"ENGINEERED TO FIT THE JOB"

Write for it Right Now!

...Your Free Guide

to the Metal you'll be using more and more

GET THE FACTS...
MAIL THE COUPON



Brief, yet complete, this bulletin is an eye-opener for busy textile men.

In 16 pages of charts, graphs, illustrations and *facts*, the booklet tells about Inconel,* the rustproof nickel alloy that stands up in all dyeing processes.

Inconel is suitable for use with acid or acid chrome dyes, as well as with direct, vat, sulfur and developed colors. It is resistant to corrosion by dilute hypochlorites, sizing and similar compounds and solutions. It may be safely employed with peroxide bleaches.

Although it is both stronger and tougher than structural steel, Inconel is readily fabricated and welded. Use Inconel, and you'll have extremely rugged, long-lasting equipment.

Full information about this better construction material for textile equipment is contained in Technical Bulletin T-7, *Engineering Properties of Inconel.*

Mail the coupon for your free copy. Keep it handy for reference. Let it help you in locating places where Inconel can be used to advantage in your plant.

*Reg. U. S. Pat. Off.

The International
Nickel Company, Inc.
67 Wall Street, New York 5, N. Y.

Please send my free copy of Technical Bulletin T-7, *Engineering Properties of Inconel*, without obligation.

Name.....

T. I. 11-47

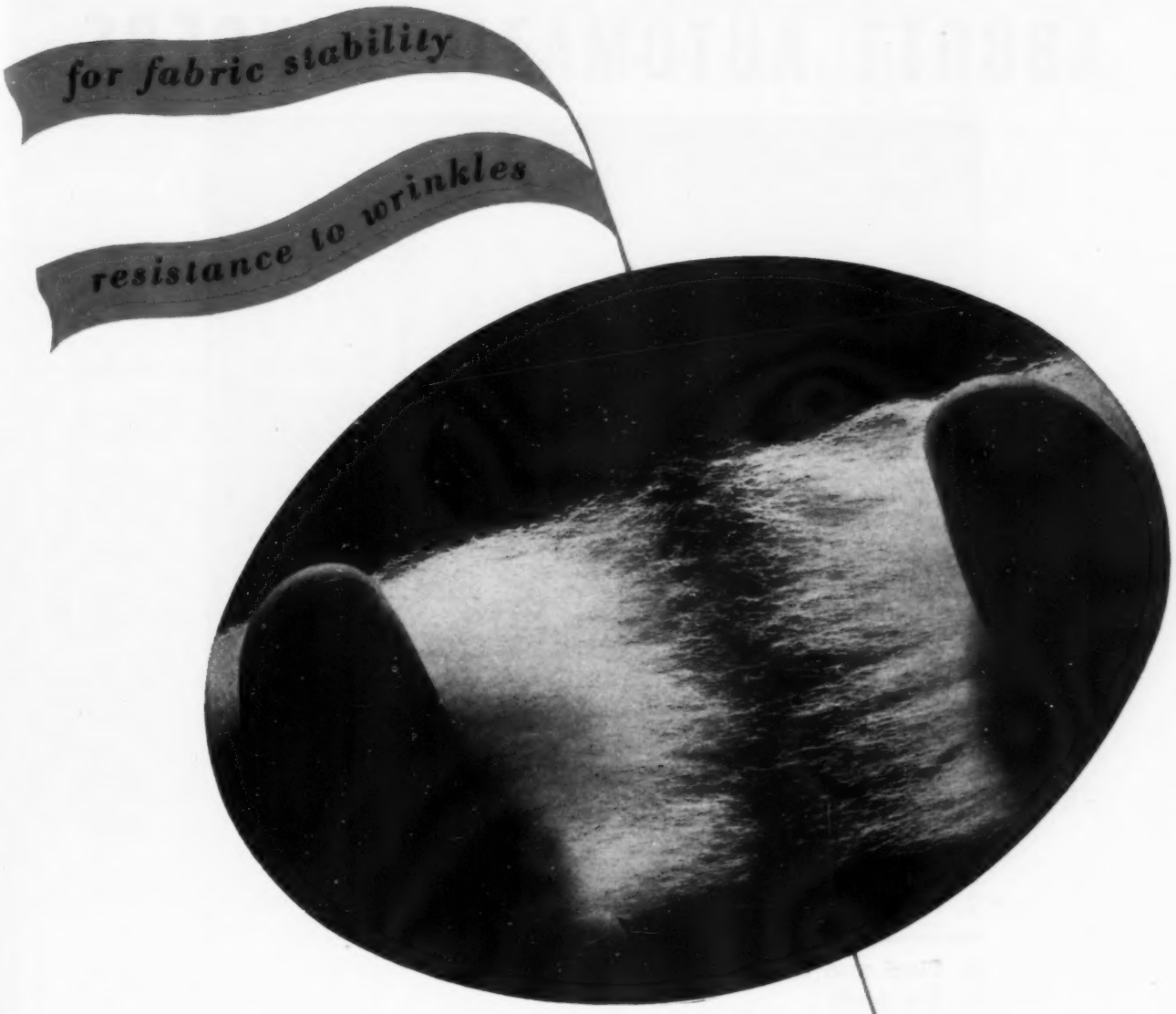
Title.....

FILL IN — PIN TO LETTERHEAD — MAIL

THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall Street, New York 5, N. Y.

INCONEL*

(80 NICKEL—14 CHROMIUM)



go back as far as the fiber—

* TECA

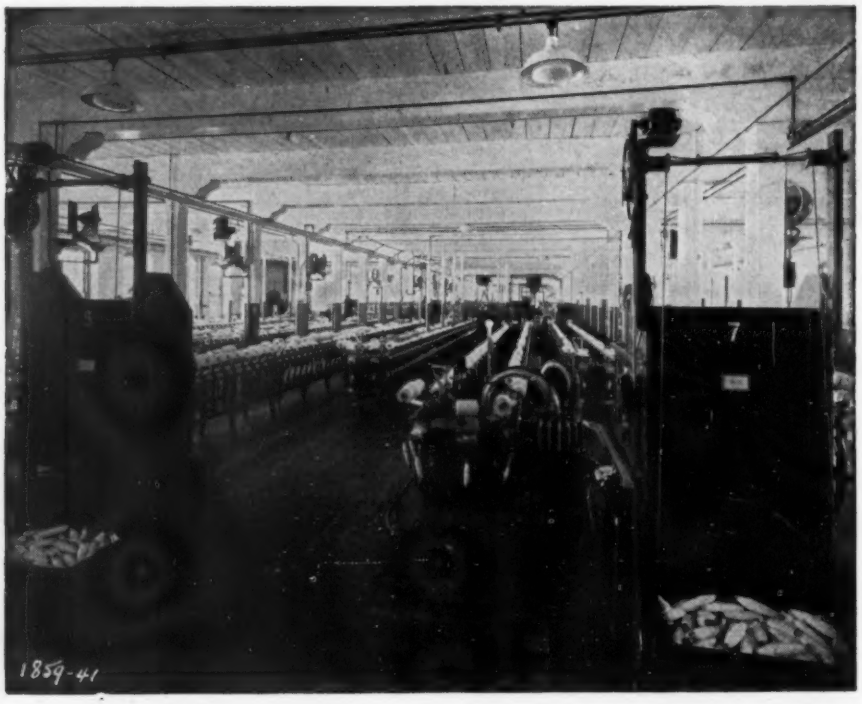
Eastman *crimped* acetate staple builds increasing demand with its two leading properties—a low moisture absorption which helps control shrinkage—a springy liveliness which combats crushing. All-TECA fabrics, and compositions where TECA is used in the higher percentages, have these qualities spun in *right from the start.*

Mills consider TECA the logical fiber to improve the appearance and efficiency of new fabrics—are continually experimenting with a wider range of deniers and lengths, used alone or in combination with other fibers—on cotton, worsted, wool, and silk systems.

* EASTMAN *crimped acetate rayon*

For further information about TECA, consult A. M. Tenney Associates, Inc., 10 East 40th Street, New York 16, sales representatives for TENNESSEE EASTMAN CORPORATION (Subsidiary of Eastman Kodak Company), KINGSPORT, TENNESSEE.

ABBOTT AUTOMATIC WINDERS



The operations required to run a cone winder are:

1. **Pick up bobbin**
2. **Find end**
3. **Put bobbin in position**

---

4. **Find end on cone**
5. **Tie ends**
6. **Start winding head**
7. **Hold thread out of traverse until cone is up to speed.**

The Abbott Automatic Winder requires only the first three operations to be done. The last four operations are wholly automatic.

Also, instead of a constant parade around the machine, the operator stays in one position sitting or standing.

Also, the full and empty bobbins and cones are within easy reach in large supply.

The result is a production three times that of the conventional stationary spindle non-automatic winder.

Average hourly production per operator 900 to 1000 bobbins per hour

2 oz. bobbin..... 112 lbs. hour
4 oz. bobbin..... 224 lbs. hour
6 oz. bobbin..... 338 lbs. hour
8 oz. bobbin..... 448 lbs. hour

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Office ***Greenville, S. C.***

How Reliance V★S can help *you*

meet the greatest challenge

industry has ever faced

WAGES go up and up, along with materials and other manufacturing costs. But to keep America prosperous, prices cannot be permitted to spiral to the point where large numbers of consumers are forced out of the market. How to prevent this presents the greatest challenge industry has ever faced.

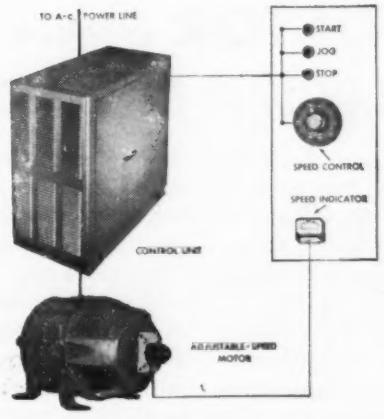
One sound answer is increased production through the use of more efficient machinery and methods. And this is where Reliance V★S can help you. *We have yet to find the industry where the V★S Drive cannot improve the quantity and quality of output, while lowering costs.*

A Reliance Application Engineer will survey your operations, then show you where and how you can benefit most through use of V★S—*the All-electric, Adjustable-speed Drive, operating from A-c. Circuits.* Just phone the nearest Reliance representative or write us direct for Bulletin 311.

RELIANCE ELECTRIC & ENGINEERING CO.
1085 IVANHOE ROAD • CLEVELAND 10, OHIO
Sales Representatives in Principal Cities

RELIANCE V★S DRIVE

Available in the Electronic System (1 to 5 hp.), in the Rotating System (1 to 200 hp.), or in a combination of both systems.



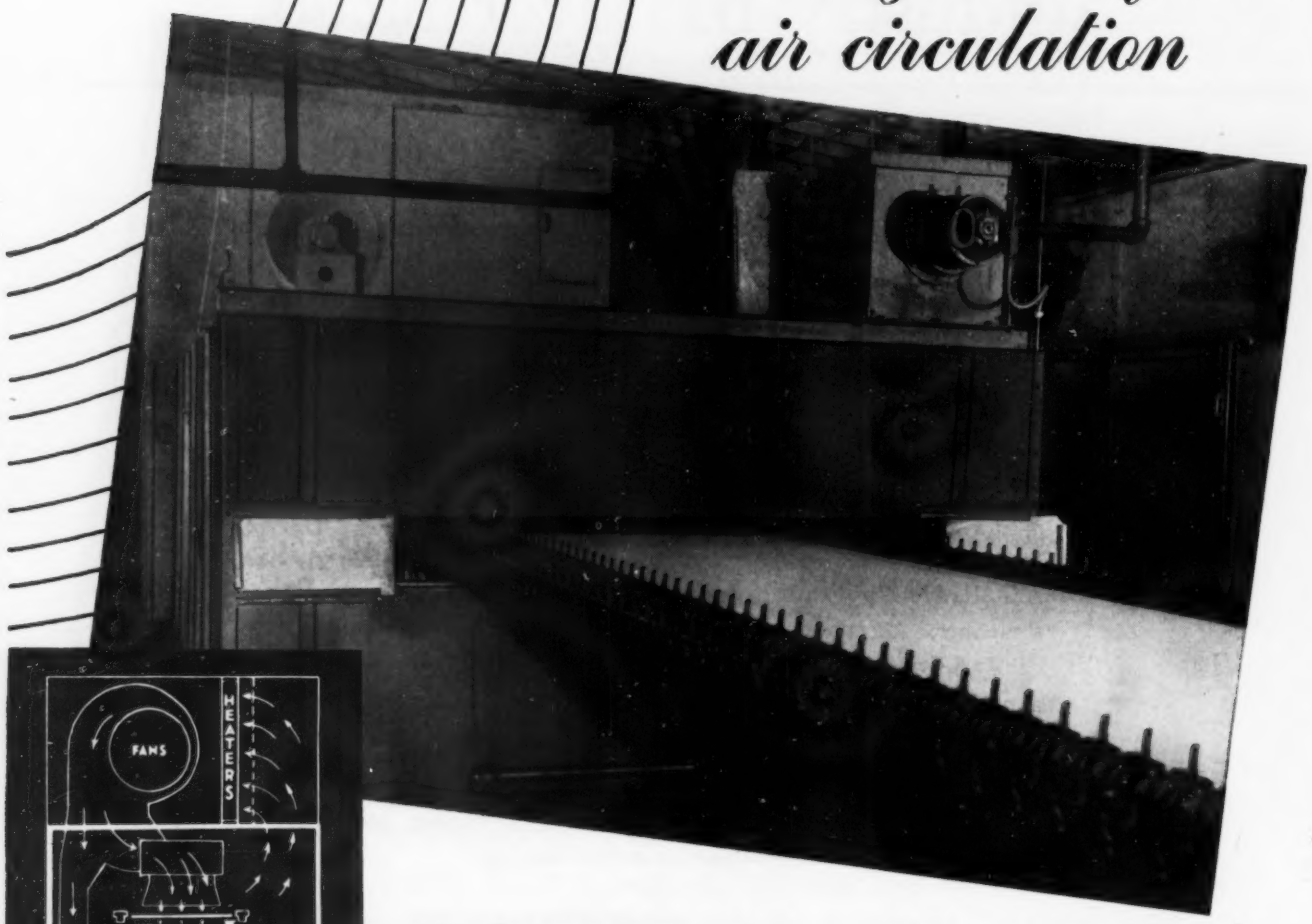
Reliance V★S Drive provides unlimited flexibility of machine operation. Starting, stopping, speed changing, reversing, maintenance of proper tension and other functions are exercised automatically or manually from nearby or remote stations.

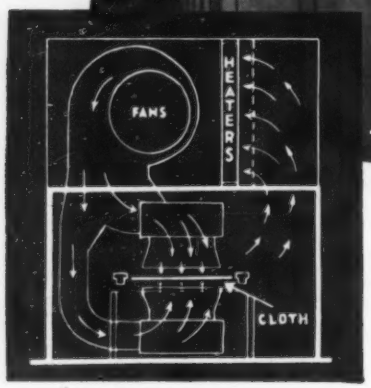
RELIANCE A-C D-C MOTORS

"MOTOR-DRIVE IS MORE THAN POWER"

HIGH SPEED DRYING

through unique air circulation





PROCTOR *Super-Speed* SYSTEM *Applied to* SINGLE RUN TENTERS

The factor which contributes most to the high speed operation that is possible with this modern system of tentering is air circulation. When a single run tenter is enclosed in a Proctor housing, air at high temperature is impinged through nozzles against both sides of the fabric as it is carried through the drying chambers. Circulating through the goods, this penetration of uniformly heated air reduces drying time and increases output. The proper regulation of moisture in the air, so as to obtain speedy drying without harsh effects on the cloth, has an important bearing on the quality of the finished goods. Of course, output varies with individual plant requirements, length of the machine and the character and weight of the goods—but is always kept to a maximum by this system. Temperatures, air velocity and drying speed may be altered to suit a wide variety of fabrics and finishes. After considerable engineering and development work, this system represents the maximum in the efficient use of horse-power, and making possible decreased drying costs. One of the most recent applications for this system has been in the drying of fabrics preparatory to curing. If the finishing of fabrics which must be held to width is part of your plant operation—investigate the decided advantages of the Proctor "Super-Speed" System applied to single run tenters.

PROCTOR & SCHWARTZ, INC.
PHILADELPHIA 20, PA.

Add **COLOR** *and any line moves faster! By its magic, a chunk of wood becomes a seductive bass-plug . . . a bolt of lifeless grey goods shimmers with feminine allure. Nothing else adds so much value at such small cost.*

WHEREVER COLOR IS USED

SPECIFY *National Aniline Dyes*

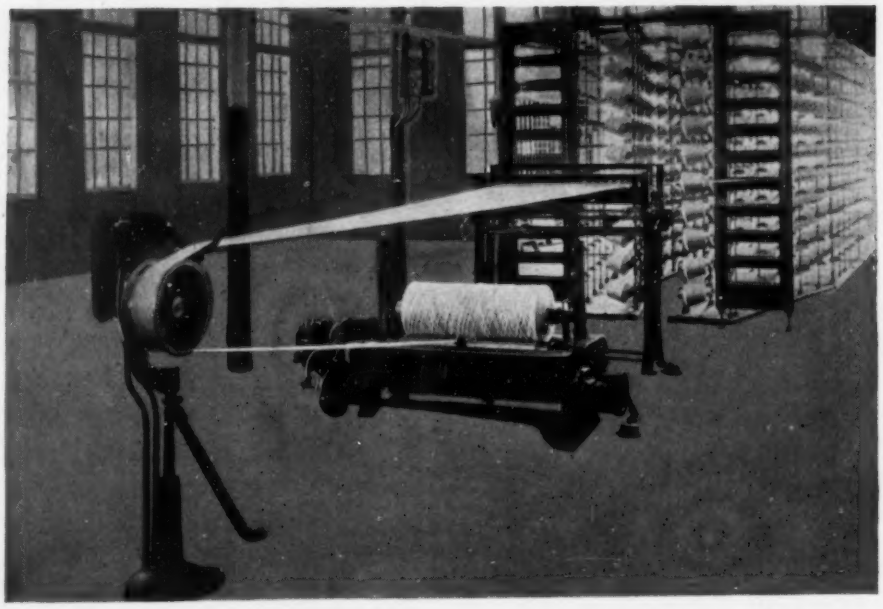
NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, NEW YORK

BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND, ORE.
GREENSBORO • CHARLOTTE • ATLANTA • NEW ORLEANS • CHATTANOOGA • TORONTO

Rugged and Accurate

THE COCKER HIGH SPEED BALL WARPER

Cocker High Speed Ball Warpers assure greater economy in subsequent operations. They give even tension on individual ends and eliminate unnecessary tangling and breaks.



THE COCKER HIGH SPEED SECTION BEAM WARPER

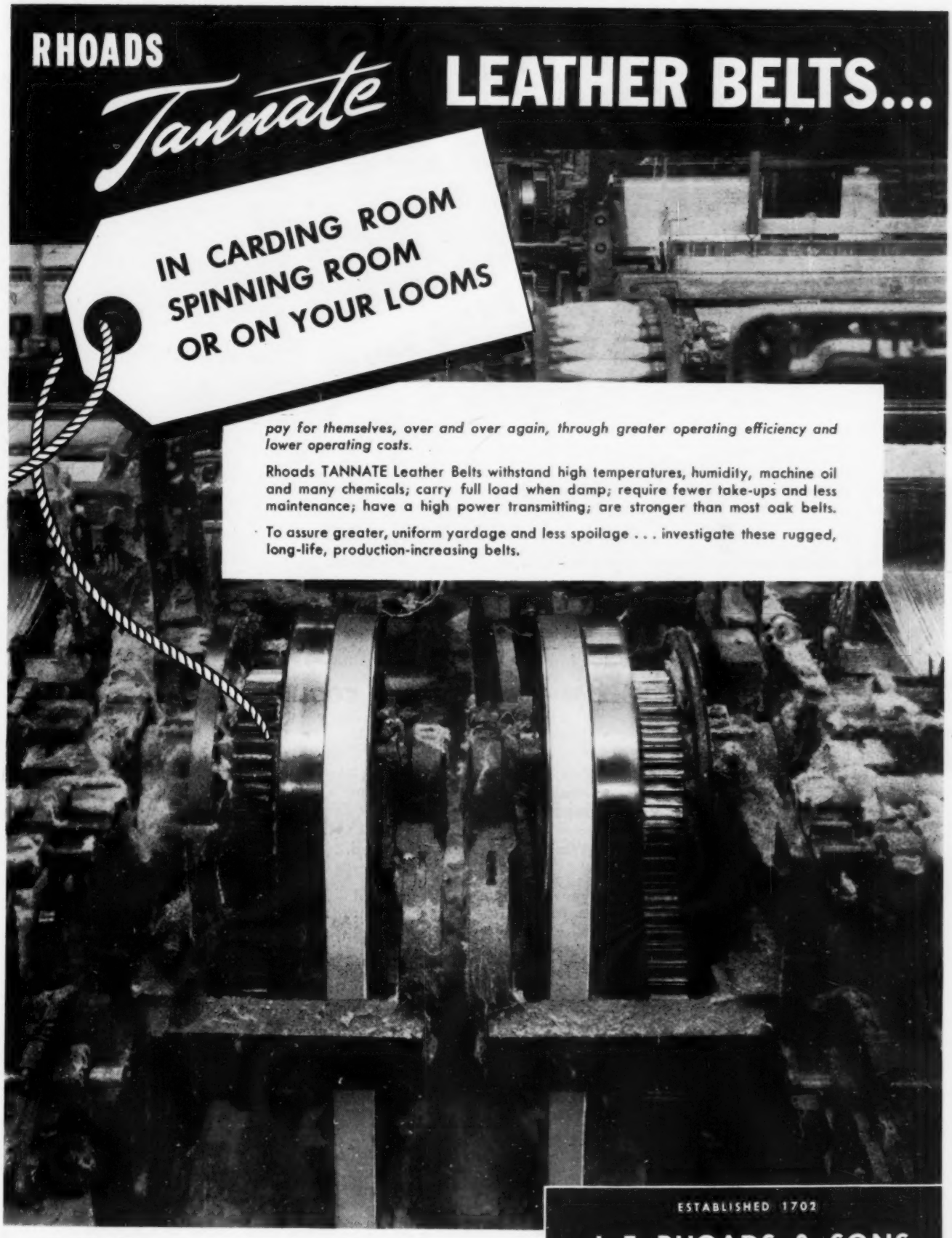
The Cocker High Speed Section Beam Warper is ruggedly and accurately constructed to allow continuous high speed operation with a minimum of vibration and wear.

World's Largest Designers and Builders of Complete Warp Preparatory Equipment

Full details on these outstanding machines, as well as other Cocker Warp Preparatory Equipment, will be sent on request.

COCKER
MACHINE and FOUNDRY
COMPANY
GASTONIA, NORTH CAROLINA

RHOADS *Tannate* LEATHER BELTS...



IN CARDING ROOM SPINNING ROOM OR ON YOUR LOOMS

pay for themselves, over and over again, through greater operating efficiency and lower operating costs.

Rhoads TANNATE Leather Belts withstand high temperatures, humidity, machine oil and many chemicals; carry full load when damp; require fewer take-ups and less maintenance; have a high power transmitting; are stronger than most oak belts.

To assure greater, uniform yardage and less spoilage . . . investigate these rugged, long-life, production-increasing belts.

HYDRAULIC PACKINGS AND OTHER MECHANICAL LEATHER PRODUCTS

ESTABLISHED 1702

J. E. RHOADS & SONS

35 NORTH SIXTH ST., PHILA. 6, PA.

NEW YORK • CHICAGO • ATLANTA

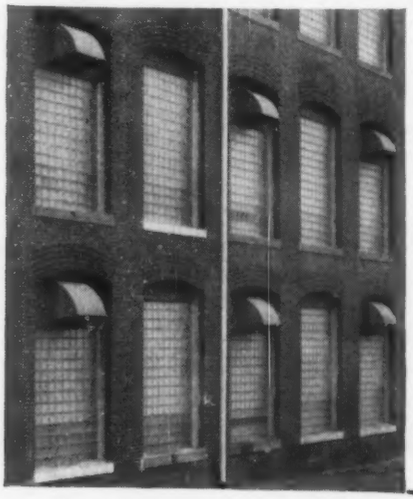
AMCO fan units for controlling air intake are easily installed without sacrifice of interior machine set-up.

EQUAL THESE

BENEFITS FROM AMCO HUMIDIFICATION AND COOLING

- Reduces excessive temperature and holds relative humidity at point best suited to fibre and process.
- Increases worker comfort and efficiency.
- Speeds production in high friction (heat) areas.
- Assures evener yarn counts and increases breaking strength.
- Waste and fly greatly reduced.
- Gradually increases regain for good roving and consequent better spinning.
- Drafting of fibres smoother and more compact.

Modern, insulative glass bricks pave the way to interior heat and moisture control in this mill. AMCO fan-powered air intakes alternate with automatically controlled vents.



• If your mill is already equipped with a humidification system, you have taken the first step to improve quality and increase production.

Your next step—AMCO Evaporative Cooling—utilizes your present humidification system to obtain top quality and maximum production.

With the AMCO Evaporative Cooling System the desired relative humidity is accurately maintained by introducing atomized water spray. The frictional heat of high speed machines is absorbed by evaporation of the moisture in conjunction with carefully controlled air flow. No expensive changes are necessary . . . no air ducts to install . . . no jump in maintenance costs.

Why not take this second step now? An AMCO engineer will be glad to show you how you can modernize your plant, simply and economically for better quality and increased output.

AMCO

HUMIDIFICATION and COOLING

AMERICAN MOISTENING CO. AFFILIATED WITH GRINNELL COMPANY, INC.
PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

Vanesta

The Starch Stabilizer

Stops Gelling
Improves Flow
Gives Uniform Consistency

Sample on request

R. T. VANDERBILT CO., INC.

230 Park Avenue, New York 17, N. Y.

Yes WIESNER CONTINUOUS *are packaged*

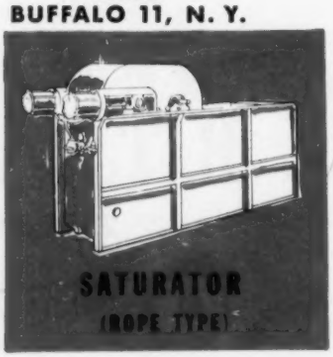
• One source of supply provides undivided responsibility for guaranteed operation of Wiesner-Rapp Continuous Bleaching Ranges.

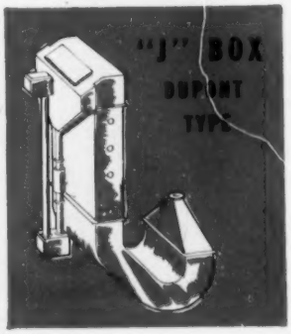
The advanced design and construction of all parts of these ranges produce a range that works as a coordinated unit to fully bleach at the astounding rate of *275 yards a minute...132,000 yards every 8 hours.*

Users of Wiesner-Rapp Equipment have received many profitable suggestions from our engineers in adapting these *stainless* steel ranges to meet specific plant and production requirements. Our engineers will welcome a meeting with you. The size of your plant is no limitation. Hear the exclusive Wiesner-Rapp story first hand from our engineers by calling them in today to tell you how you can be ahead... stay ahead with...

THE WIESNER-RAPP CO., INC.

BUFFALO 11, N. Y.





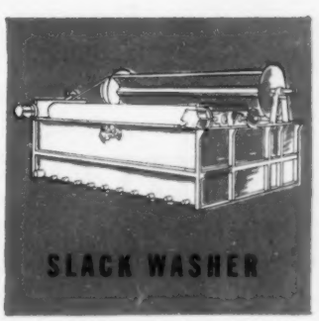
-RAPP

BLEACHING RANGES

RANGES . . . .

FROM SINGER TO WHITE BINS including all controls, electrical equipment, chemical feeds, piping, steam conditioning, mixing apparatus and bulk handling plants.

BE AHEAD ...STAY AHEAD
WITH WIESNER-RAPP



PARTIAL LIST OF W-R RANGE USERS

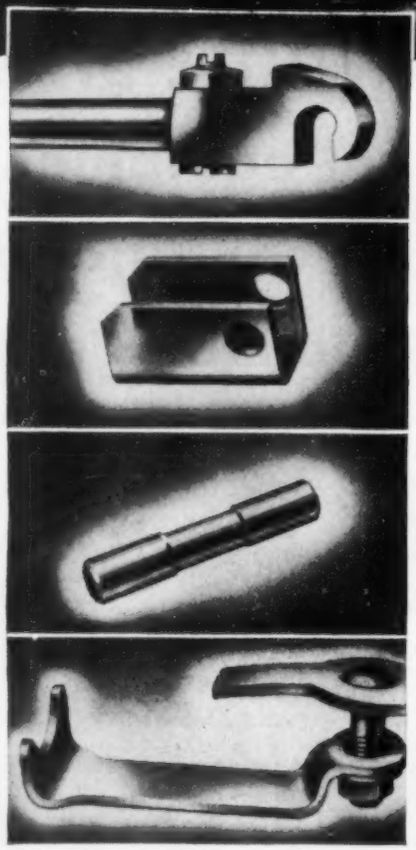
American Finishing Co.
Boott Mills
Cannon Mills, Inc.
Cluett, Peabody & Co., Inc.
Cranston Print Works Co.
The Drackett Company
Dominion Fabrics, Ltd.
Dutchess Bleachery
Pepperell Mfg. Co.

Announcing . . .

THE IMPROVED

PATERSON TENSION SHUTTLE

for Shuttle-changing or Box Looms



New!

LEVELING DEVICE

Spindle head, completely redesigned and constructed, permits accurate alignment by turning leveling screw with slot provided in shank. Lock nut maintains setting. Eliminates any need for bending spindle by hand with possibility of breakage or damage to top spring. Slot head design makes spindle change easy.

New!

METAL HEAD BOX

Heavy steel box holds spindle head rigidly in place, prevents side play. Provides solid base for leveling screw. No part of spindle head contacts wood. Assures lasting, positive alignment.

New!

SPINDLE HEAD PIN

Double shouldered steel pin, shaped so it can't work out through front or back wall of shuttle. Avoids danger of reed spoilage or "smashes" from "break outs". A patented feature!

New!

INTERCHANGEABLE CATCH

Shuttle can be assembled with either long catch, to fit a wooden bobbin, or short one for paper tube. Parts interchangeable. Operation requires less than two minutes. Provides positive fit.

NOW, with four tested improvements in mechanical design, this U S Paterson Tension Shuttle will help to eliminate "smashes" and "seconds", and reduce excessive shuttle maintenance costs.

Once again, U S matches progress in loom design with progress in shuttle design, giving you proved new features that assure greater efficiency, increased production, and fabric quality protection.

Check over these time-saving, money-saving advantages. A U S representative will show you the improved Paterson Tension Shuttle at your request. See it, try it, before you place your next shuttle order!

U S BOBBIN & SHUTTLE CO.

PROVIDENCE, R. I.
GREENVILLE, S. C.
CHICAGO REPRESENTATIVE:
Albert R. Breen,
80 E. Jackson Blvd.

LAWRENCE, MASS.

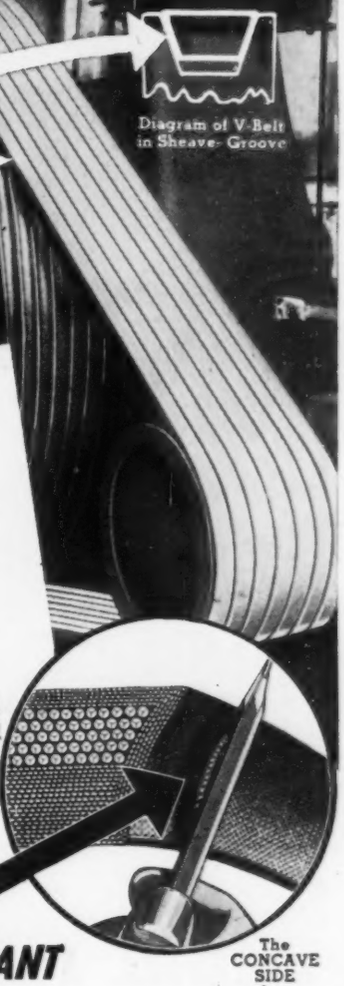
CANADIAN REPRESENTATIVE:
W. J. Westaway
Montreal, Que. — Hamilton, Ont.

JOHNSON CITY, TENN.
CHARLOTTE, N. C.
ALABAMA REPRESENTATIVE:
Young & Vann Supply Co.
Birmingham

THE SEAL OF QUALITY AND SERVICE SINCE 1857 — US — ESTABLISHED 1857

The SIDES of a V-BELT are what GRIP the PULLEY

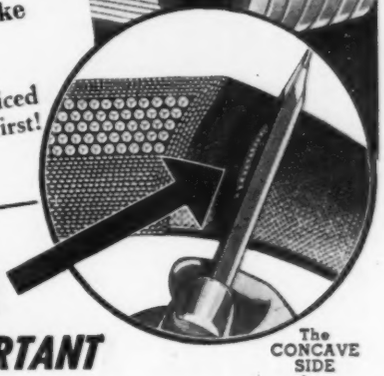
-Naturally, it's the SIDES that GET the WEAR



The story of what wears out a V-Belt—and how a belt can be built to withstand this wear a longer time — is quickly told. Here are the facts:—

Only the sides of a V-Belt touch the pulley. The sides do all the gripping on the pulley. The sides pick up the load. They transmit that load to the belt as a whole. Then, once again, the sides grip the driven pulley and deliver the power to it. And the sides take all the wear against the sheave-groove wall.

This explains why everyone who works around machines has always noticed that the *sidewall* of the *ordinary* V-belt is the part that wears out first!



The CONCAVE SIDE is a GATES PATENT

That's Why the *Patented* CONCAVE SIDE That *REDUCES* Wear on Sidewalls is So *IMPORTANT*

Naturally, since the sidewall is the part that wears out first, anything that prolongs the life of the sidewall will lengthen the life of the belt.

The simple diagrams on the right show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the middle of the sides. They show also why the Patented Concave Side greatly reduces sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belt can possibly give.

The Concave Side is MORE Important NOW Than Ever Before!

Now that Gates *SPECIALIZED* Research has resulted in Super Vulco Ropes capable of carrying much heavier loads—up to 40% *higher horsepower ratings* in some cases—the sidewall of the belt is called upon to do even more work in transmitting these heavier loads to the pulley. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important NOW than ever before!

Straight Sided V-Belt

How Straight Sided V-Belt Bulges When Bending Around Its Pulley

You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

Gates V-Belt with Patented Concave Sidewall

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley.

No bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!

4711

Gates

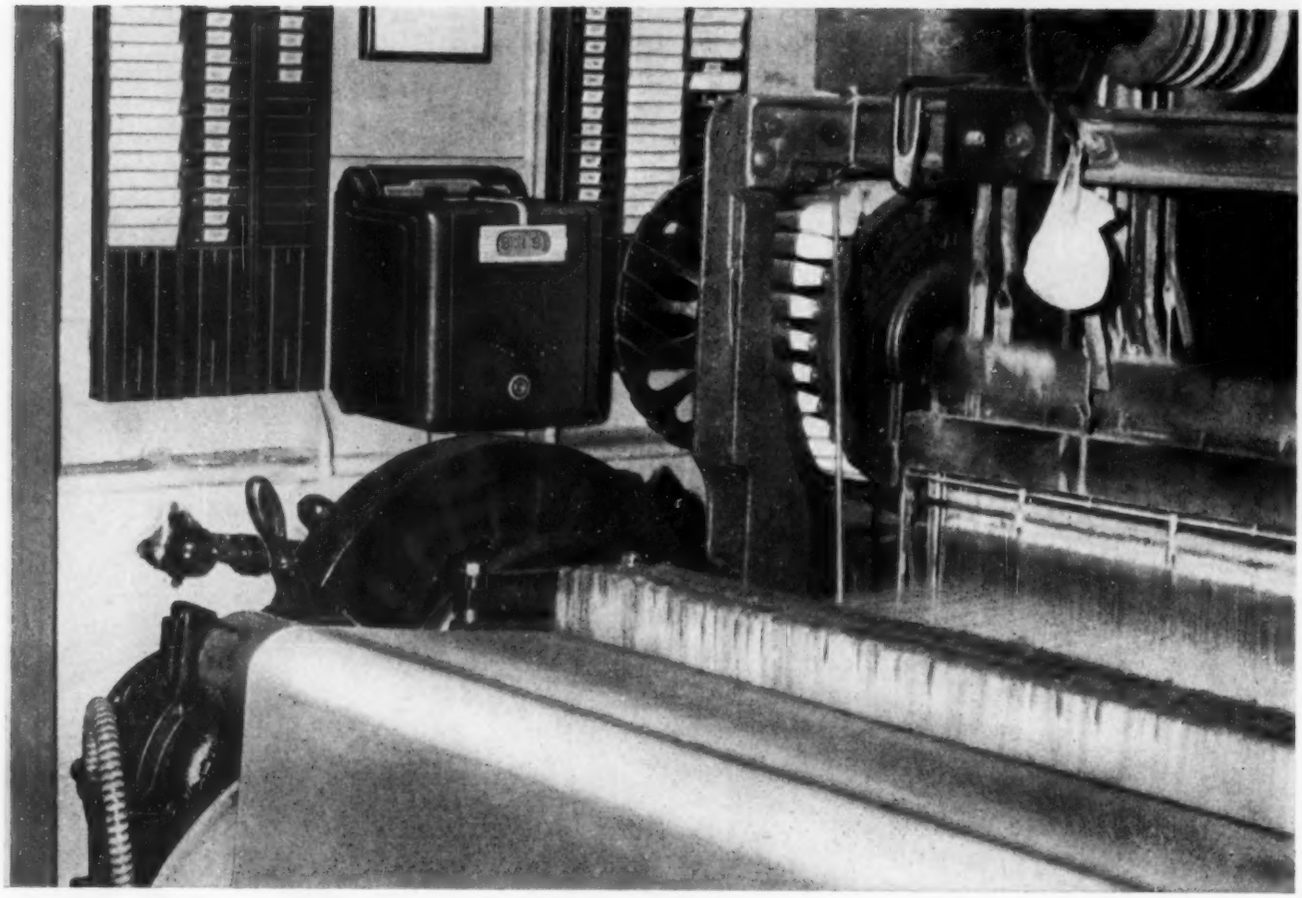
THE MARK OF SPECIALIZED RESEARCH

THE GATES RUBBER COMPANY, DENVER, U. S. A.

"World's Largest Maker of V-Belts"

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks **IN ALL INDUSTRIAL CENTERS** of the U. S. and 71 Foreign Countries



IBM TIME RECORDERS PROVIDE
Accurate Mill Time Records

Accurate, legible time records of every mill operation are increasingly important to both employers and employees for preparation of correct payrolls and cost analyses.

By means of IBM Attendance Time and Job Cost Recorders, each employee automatically records his own attendance time and production time spent on operations.

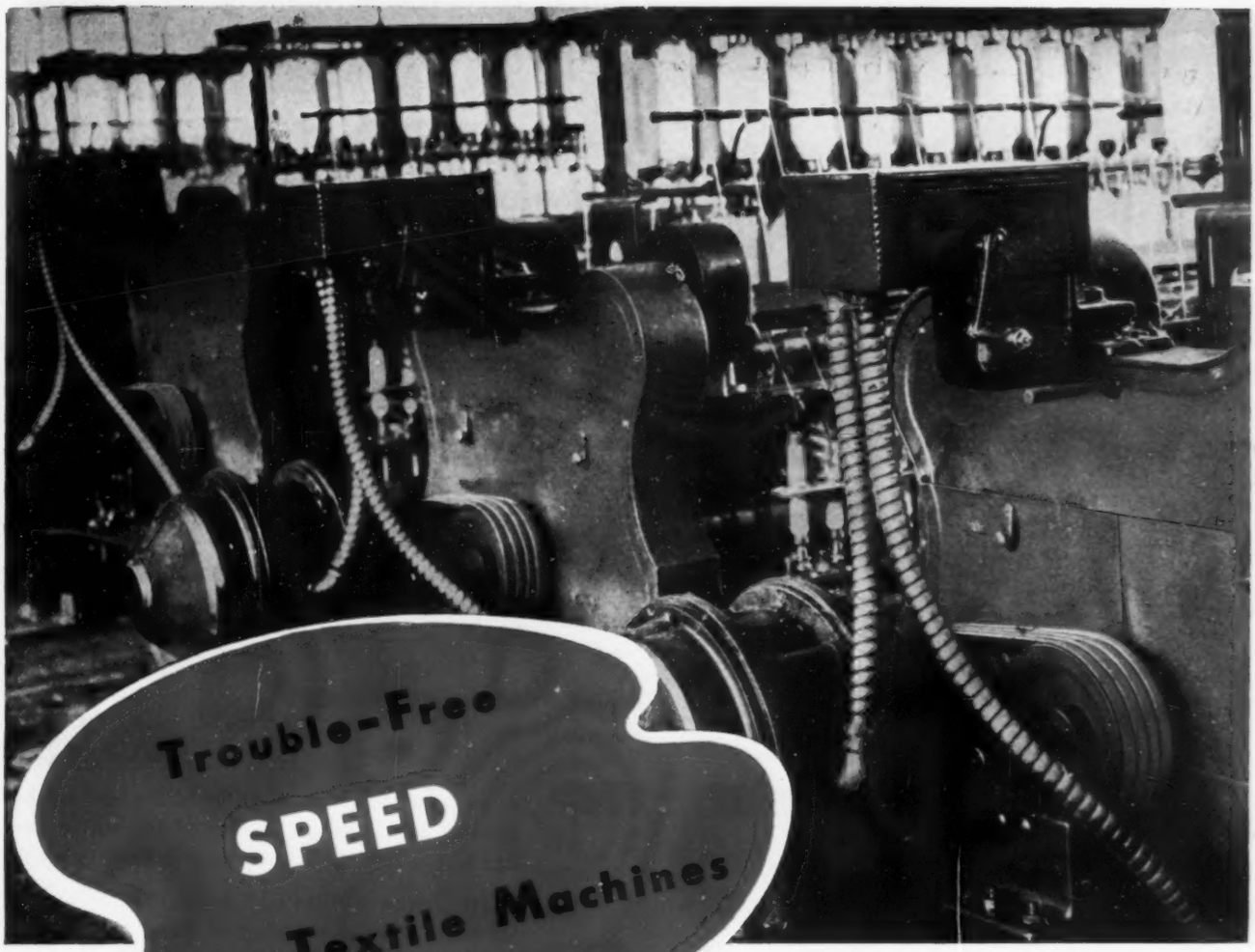
Attendance Time and Job Cost Recorders may be operated individually or by a Master Time Control that synchronizes all timing equipment throughout an entire mill. IBM Electric Time Systems coordinate all Indicating Clocks, Attendance Time Recorders, Job Cost Recorders, bells, horns, buzzers, and sirens.

IBM

TIME RECORDERS AND ELECTRIC TIME SYSTEMS

Proof Machines · Electric Punched Card Accounting Machines and Service Bureau Facilities · Electric Typewriters

International Business Machines Corporation, World Headquarters Building, 590 Madison Avenue, New York 22, N. Y.



. . . with *Condor* Whipcord V-Belts

Manufacturers of all types of machinery are relying on Manhattan's method of engineering V-belts to meet their requirements for original equipment.

Condor Whipcord V-Belts embody 8 Points of Balance. Their principal advantage lies in the endless-wound Strength Member of strong, pre-stretched Whipcords that ride in a cushion of slow-aging, heat-dissipating Flexlastics. The performance of this construction is satisfactory under all conditions. Condor Whipcord V-Belts have a wide margin of tensile strength and resistance to distortion and wear.

V-Belt Bulletin 6868-B gives more details of this long-wearing construction and includes helpful tables. Ask for your copy.

Manhattan's line of rubber products for the Textile Industry is consistently dependable—outstanding in quality. Make MANHATTAN your choice.

("Flexlastics" is exclusive with Manhattan)

RAYBESTOS R M MANHATTAN

RAYBESTOS-MANHATTAN INC.

Keep Ahead with Manhattan

MANHATTAN RUBBER DIVISION **PASSAIC, NEW JERSEY**

CONTROL...*Yes*

But

HOW EFFICIENT?

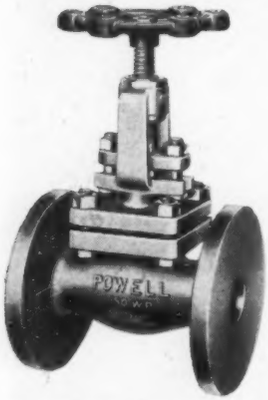


Fig. 1979 S. S.—150-pound Stainless Steel Globe Valve. Flanged ends, bolted flanged yoke bonnet and outside screw stem.

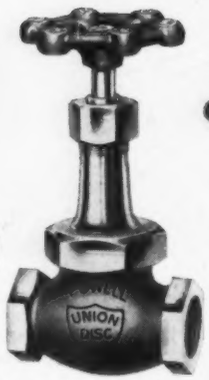


Fig. 150—150-pound Bronze Globe Valve with screwed ends, union bonnet and renewable composition disc.

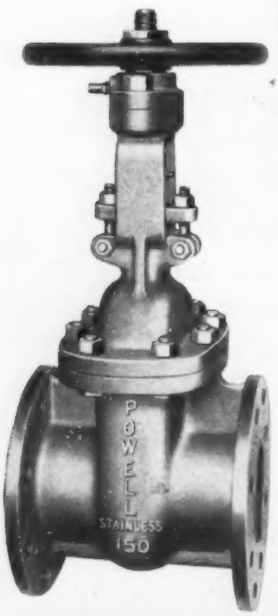


Fig. 2453-G—New, standard 150-pound Stainless Steel Gate Valve with outside screw rising stem, bolted flanged yoke-bonnet and taper wedge solid disc.

Fig. 1793—Large 125-pound Iron Body Bronze Mounted Gate Valve. Made in sizes 2" to 30", inclusive. Has outside screw rising stem, bolted flanged yoke and taper wedge solid disc.

It's a long step from the Old Mill wheel to the modern power plant. Much of the difference lies in the degree of efficiency in flow control.

More than a century ago, when Powell started to make valves, industrial flow control requirements were simple. Since then the immense growth and diversification of American Industry has multiplied the demands for diversification of flow control equipment a thousandfold.

Through these many years Powell has been meeting each and every demand as it has arisen. That's why today the Powell Line is unique in that it includes valves of the right type, size, design and material to satisfy *every* known requirement of modern industry.

The Wm. Powell Company
Cincinnati 22, Ohio

DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

See our exhibit in BOOTH 54
21st Exposition of Chemical Industries
Grand Central Palace, New York City
December 1 to 6, 1947

POWELL VALVES

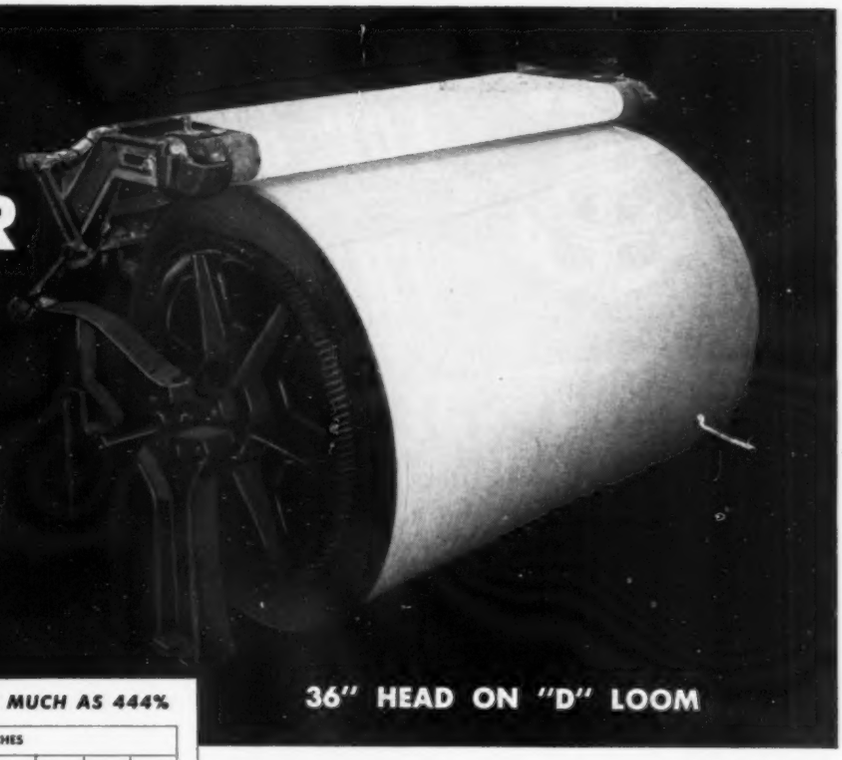
Are you stuck for
PARTS
Lowered worker efficiency and reduced over-all production show up quickly when you're short of essential parts.
Jenkins' expanded facilities, large stocks of metal, and skilled workmen are a proved source for quality products and prompt service.
WHEN YOU NEED . . .
New or rebuilt spinning or twister cylinders . . . picker, card, condenser, and waste machine screens . . . covered with either English wire, square mesh or perforated metal . . . aspirators and aspirator dampers . . . comber tins, lap aprons, waste chute boxes, sliver pans, comber cages, etc. . . . brass or copper twister troughs . . . gear guards . . . cylinder heads for any model or make, Whitin, Saco-Lowell, Fales & Jenks, etc. . . . write or call Jenkins.
All products, workmanship, and material guaranteed to give 100% satisfaction.
JENKINS
METAL SHOPS
INCORPORATED
GASTONIA
NORTH CAROLINA
JENKINS Dynamically Balanced SPINNING CYLINDERS

With the problem of correct lubrication mounting with air pressures, many engineers are vitally concerned with what air compressor oil they can depend on to keep their compressors on the job longer—with less time out for repairs and replacements . . . Specially designed for an exacting, multiple job—Standard Oil Compressor Oils form strong films to resist wear, seal against blow-by, and fight off the formation of carbon deposits in the heat of compression. Why not have a Standard Oil Lubrication Engineer consult with you on your compressor oil problems? Remember—the experience and combined facilities for research and testing behind Standard Oil Lubricants are unequalled.

when the pressure's on

STANDARD OIL COMPANY INCORPORATED IN KENTUCKY

the BIGGER the BEAM the BETTER



36" HEAD ON "D" LOOM

You Can Increase Yarn Capacity BY AS MUCH AS 444%

PRESENT LOOM BEAM DIAMETER—INCHES	INCREASED LOOM BEAM DIAMETER—INCHES											
	40	38	36	34	32	30	28	26	24	22	20	18
18	444.0	389.0	337.5	289.0	243.0	200.0	159.5	122.2	87.5	55.6	26.4	0
20	329.5	287.0	246.0	207.5	171.4	137.4	105.5	75.8	48.4	23.1	0	
22	249.0	214.2	181.3	150.0	120.5	92.8	66.9	42.8	20.5	0		
24	189.5	160.5	133.3	107.5	83.0	60.0	38.5	18.4	0			
26	144.4	120.0	96.8	75.0	54.4	35.0	16.9	0				
28	109.1	88.2	68.5	49.7	32.1	15.5	0					
30	81.0	63.0	45.8	29.6	14.4	0						
32	58.3	42.5	27.5	13.4	0							
34	39.6	25.7	12.5	0								
36	24.6	11.7	0									
38	11.1	0										
40	0											

EXAMPLE:

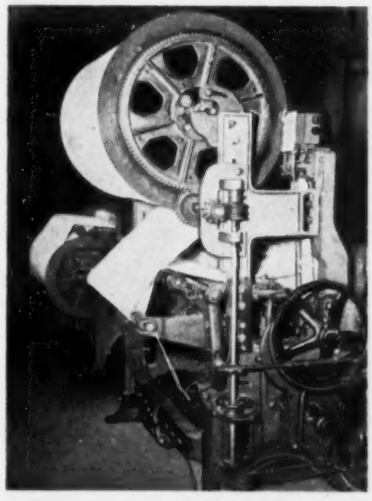
PRESENT BEAM—20" DIA., 750 YARDS
LARGE BEAM—26" DIA.
PERCENT INCREASE 75.8
ADD 100 to .758 1.758
CACAPITY OF 26" BEAM 750 x 1.75 1319 YARDS

REDUCE RUN-OUTS! CUT HANDLING! SAVE LABOR! INCREASE PROFITS!

Look for increased efficiency and PROFITS when you equip your mill to run larger beams and longer warp.

Large beams with greater yarn capacity increase loom running time . . . reduce runouts. Time-consuming warp tying and beam handling—while machines stand idle—are cut to a minimum.

Step up slasher and loom room efficiency and profits. Install larger beam heads now. Built for long life, these high grade heads are expertly designed and machined. Barrels of thoroughly seasoned woods turned straight and true . . . sealed against moisture.



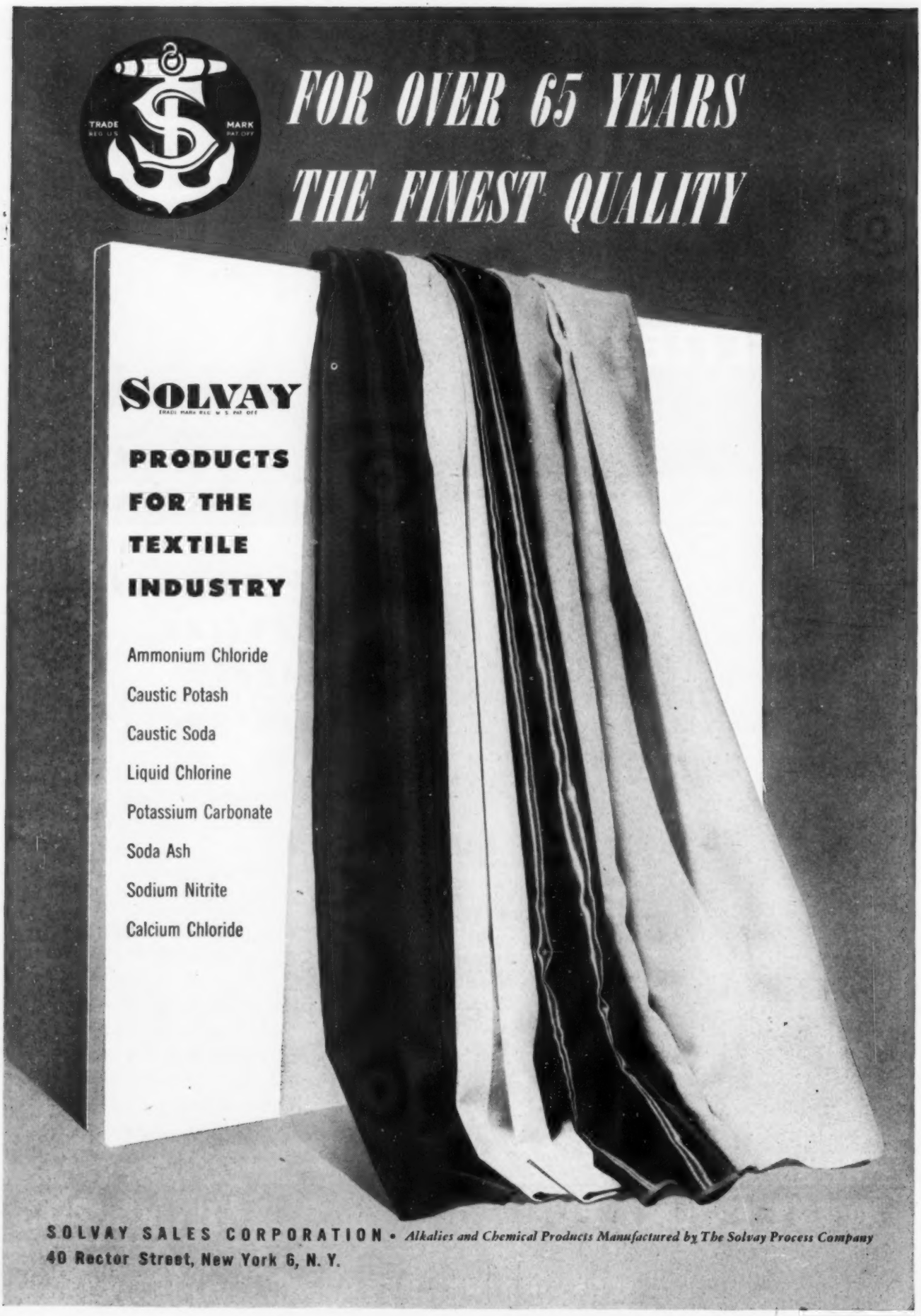
BIGGER BEAMS

can be easily installed on top of the looms in weave sheds with narrow alleys. Operated with Roper, Bartlett or independent let-off

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA


TRADE
MARK
FOR OVER 65 YEARS
THE FINEST QUALITY
SOLVAY
PRODUCTS
FOR THE
TEXTILE
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Ammonium Chloride
Caustic Potash
Caustic Soda
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Potassium Carbonate
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Calcium Chloride
SOLVAY SALES CORPORATION • Alkalies and Chemical Products Manufactured by The Solvay Process Company
40 Rector Street, New York 6, N. Y.

STYLES CHANGE

with process water too!

• Today quality mills insist on *modern* process water! They know old-fashioned process water can easily disturb chemical reactions, spoil the finish of fabrics and cause spotty, off-color dye lots. They protect fabric quality with water quality . . . with Permutit Water Conditioning Equipment!

Why not check *your* process water to see if it is doing the job it should? Without obligation Permutit engineers will analyze your water problems with you. Just write to the Permutit Company, Dept. TI-11, 330 West 42nd Street, New York 18, N. Y., or the Permutit Co. of Canada, Ltd., Montreal.

Permutit

FOR 34 YEARS WATER CONDITIONING HEADQUARTERS

L. F. Dommerich & Company

Executive and General Offices

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NEW YORK 16, N. Y.

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For Manufacturers and Merchants

Inquiries as to our services solicited

●

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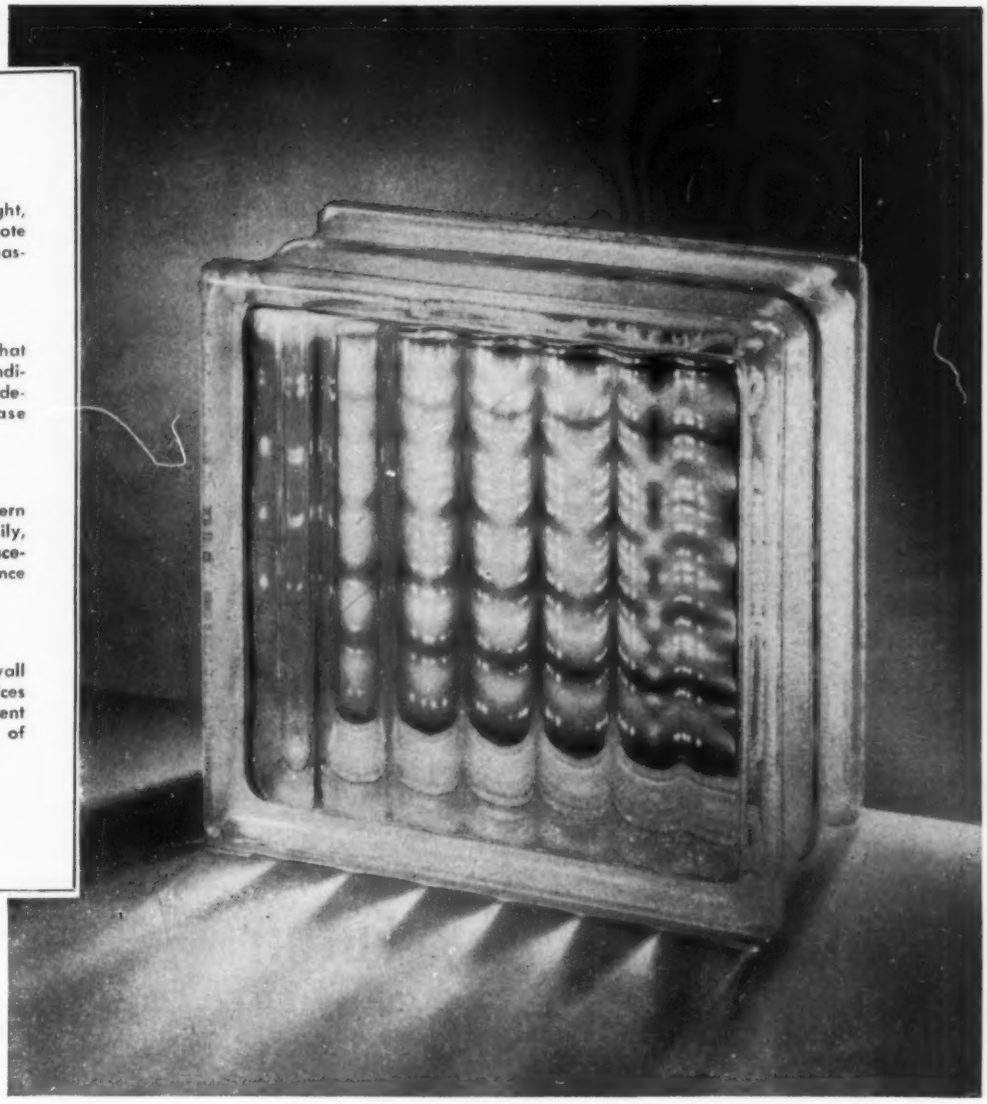
PC GLASS BLOCKS
provide ample, diffused daylight, which can be directed to remote working areas, thereby increasing usable floor space.

PC GLASS BLOCKS
possess insulating qualities that reduce heating and air-conditioning costs, help maintain desired temperatures, decrease condensation.

PC GLASS BLOCKS
give any mill a neat, modern appearance. They clean easily, rarely need repairs or replacement, help reduce maintenance costs.

PC GLASS BLOCKS
form a solid, translucent wall which insures privacy for offices and work rooms. They prevent infiltration of chilling drafts, of harmful dust and grit.



One building material gives you all these advantages

● Mill superintendents who have installed PC Glass Blocks can tell you that they improve the appearance of the mill, set new high standards of efficiency, hold operating costs down to new lows. Whether you are planning for new buildings or for a modernizing program, be sure you have the latest information on PC Glass Blocks. Why not send the coupon today for our recent booklet? No obligation. Pittsburgh Corning Corporation also makes PC Foamglas Insulation.

PC GLASS BLOCKS...the mark of a modern building

PITTSBURGH PC CORNING ® GLASS BLOCKS

Distributed by PITTSBURGH PLATE GLASS COMPANY by W. P. Fuller & Co. on the Pacific Coast and by Hobbs Glass Ltd. in Canada

FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS

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Please send along my free copy of your new book on the use of PC Glass Blocks for Industrial Buildings. It is understood that I incur no obligation.

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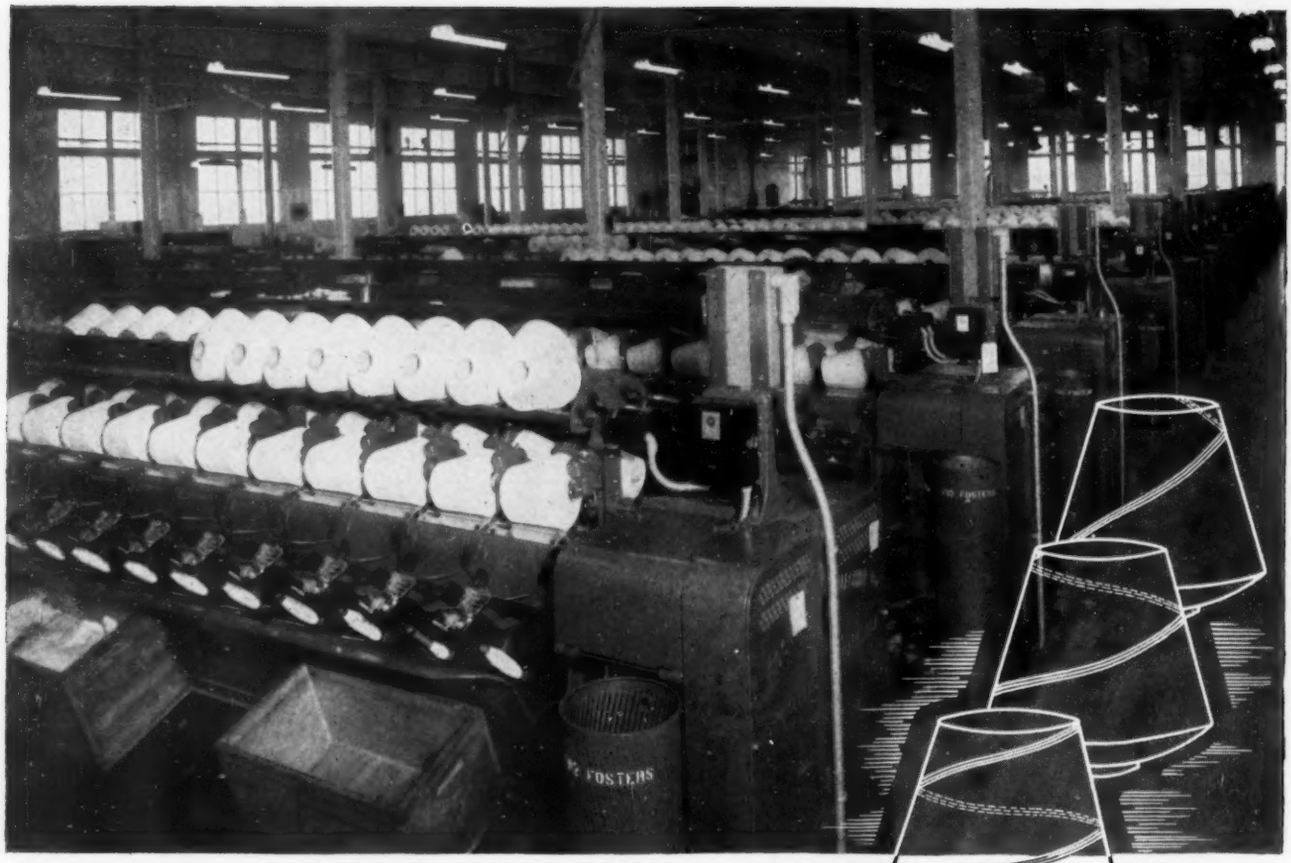


Smoother R.P.M. by Fafnir helps Foster get more Y.P.M. out of their 102 Winder

TWO TO THREE TIMES as much production with a third less labor per pound of yarn is good news in the textile industry these cost-ridden days. Foster did it with their new Model 102 Winding Machine by a series of ingenious refinements and the liberal use of Fafnir Ball Bearings.

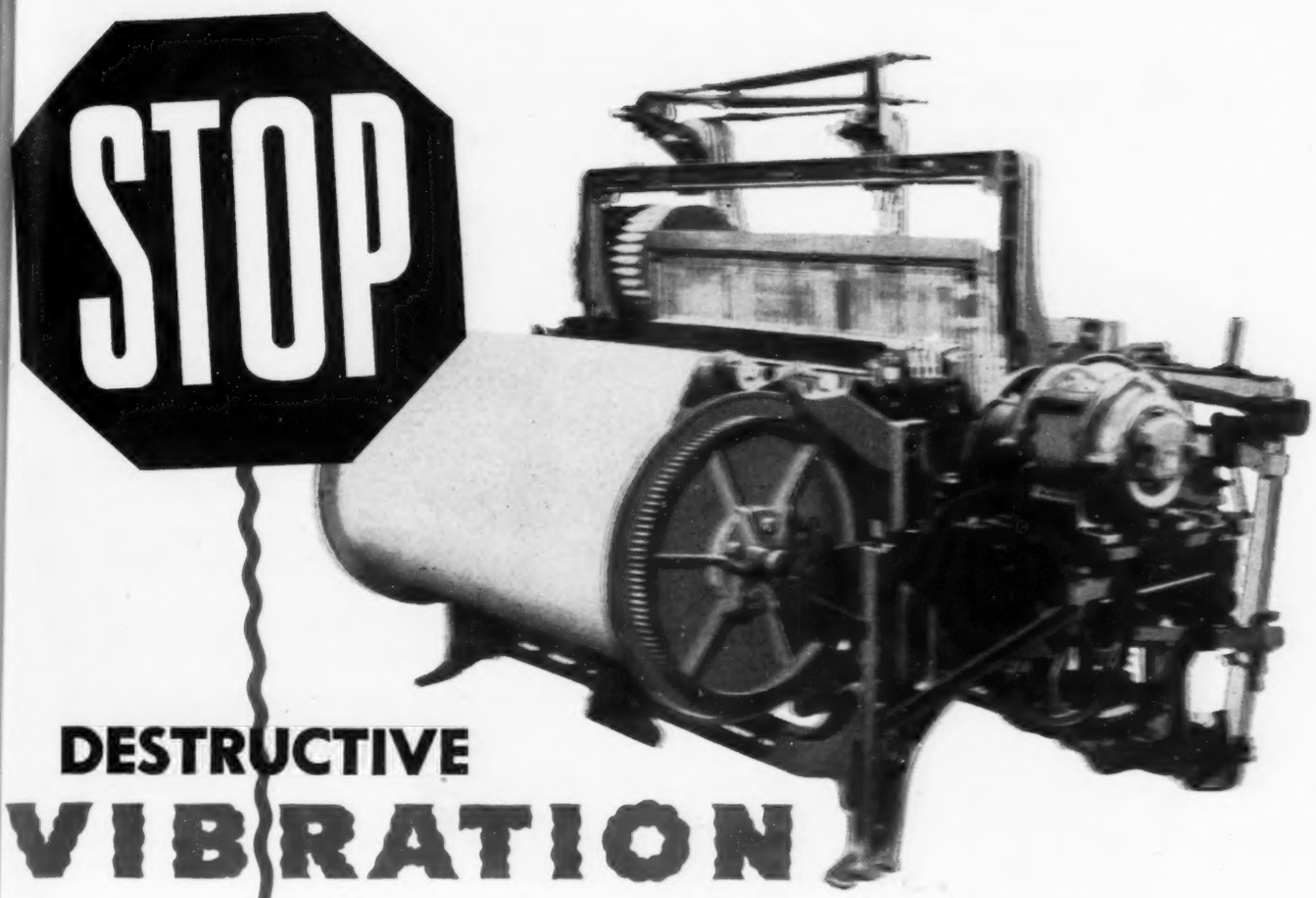
In order to achieve uniform package density at these higher speeds, Foster uses the drum winding method. The yarn package is rotated on its spindle by means of a metal drum with a loose shell at the end contacting the small end of the winding cone. Fafnir Self-Aligning Ball Bearings are used on both the actuating cam shaft and the spindle. Both installations required a new method of fastening the bearings to the shafts and a simple, quick method of relubrication . . . developed jointly by Foster's and Fafnir's engineers.

The smooth, vibrationless operation of this mechanism is an important Foster feature. Another feature of the Foster Winder is that it can be changed from one type of put-up to another quickly and comparatively inexpensively, especially when an extra set of camshafts and camshaft ball bearings are used in the changeover—very important in these days when your order specifications change frequently. The Fafnir Bearing Company, New Britain, Conn.

Fafnir Mechani-Seal Ball Bearing used on Foster Model 102 Winder.

MOST COMPLETE LINE IN AMERICA

FAFNIR BALL BEARINGS



DESTRUCTIVE VIBRATION

Steady loom crankshafts with two extra bearings. Eliminate the "Whip" of picking motion with two more camshaft bearings. Add adjustable stop-motion supports that stay tight. Tie crankshaft and camshaft together to stop improper meshing of gears. Brace loom sides with a rigid assembly.

You can accomplish all this with installation of patented Hunt Spreaders on your present looms.

Our factory-trained erectors can install Hunt Spreaders on your looms—whether fifty or five hundred—with a minimum of interruption. It's easier than you think. Write or wire today for information.

Would you like a copy of our latest catalog? It is yours for the asking.

HIGHER LOOM SPEEDS

MORE PICKS-PER-MINUTE

FINER CLOTH

GREATER PRODUCTION

HIGHER PROFITS

Hunt SPREADERS

• ADD YEARS TO LOOM LIFE •

Companion products to Hunt Spreaders which also carry the Hunt name include Motor Drives, Flywheel Drives, Centrifugal and Gear Pumps, Size Kettles and Hydraulic Presses.

HUNT MACHINE WORKS, INC.

SUCCESSORS TO

MOUNTAIN CITY FOUNDRY AND MACHINE CO. AND HUNT LOOM CO.

200 ACADEMY STREET TELEPHONE 200 GREENVILLE, SOUTH CAROLINA

"Dayco aprons show no signs of deterioration such as cracking, splitting, distortion or grooving"

Spinning room overseers, throughout the textile industry, are insisting more and more that *every frame* in their spinning rooms be equipped with *Dayco* Long Draft Aprons. That's because Daycos last longer, require less attention than other type aprons. Daycos are nondirectional . . . can be put on either way. Important too, is their nonstretch feature that keeps them on the frame when you start up. Because the thickness of Dayco aprons is rigidly controlled to 1/1000's, plus or minus, yarn uniformity is increased as much as 10%, or more. *Furthermore, Daycos retain their original drafting qualities for many, many months of trouble-free service.*

If you aren't using Daycos, it will pay you to put a few to work on your frames now. Write for additional information, or have one of our textile product engineers call on you. He can show you many additional ways to more economical production and better quality yarn.

TEXTILE PRODUCTS DIVISION • DAYTON RUBBER
Main Sales Office: Woodside Bldg., Greenville, S. C.
Factory: Waynesville, N. C.

ADDITIONAL ADVANTAGES IN USING DAYCO LONG DRAFT APRONS

- Greater coefficient of friction
- No inside rib
- Nondirectional
- Will handle cotton, synthetics
- Uniformly flexible from apron to apron
- Don't pick up lint
- Won't curl
- Unaffected by hard ends

Dayton Rubber
THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

You Are All More Than Welcome

"Indeed we are grateful for the information you sent us in answer to our request sent your department a few days ago.

C. R. BLAKENEY
Industrial Engineering Co.
Kershaw, S. C.

(It is the natural function of a business paper to supply special data and information to those interested in the industry the publication serves. We take this opportunity to say that we are glad to be able to render satisfactory service to most of the requests received, whether it be specific information, tear sheets and reprints of articles and whatnot.)

◆

Service to Weaver

"Thank you very much for the weaving information you sent me. This is the first information I have been able to find on the subject; it has been of considerable help. We appreciate your prompt response."

GEORGE M. McMILLAN
Crystal Springs Bleachery,
Chickamauga, Ga.

(Information appearing in TEXTILE INDUSTRIES is cross-indexed, and requests for data are fulfilled when possible. Remember that there has been and still is a paper shortage, so save your copies of the magazine—we don't have many extras on hand.)

◆

Back Issues Tell the Story

"We are in the process of trying to improve our plant maintenance through a more positive checking program with our overseers and secondhands. Our immediate goal is an improvement in our loom checking and maintenance, although we plan to follow this through in the other departments. Any information or help you may be able to render on this will be greatly appreciated."

NAME WITHHELD

(That one didn't worry us a bit. We still have a few reprints on the Dan River series, which tells the story—and our modernization and maintenance issues for the past decade give some good pointers. Also, the magazine has specialized since time immemorial in giving the most complete reports of technical discussion meetings published. His package of "dope" was mailed the same day his letter was received. The supervisors at this mill could dig up further information around the office of TEXTILE INDUSTRIES—the invitation is open.)

◆

An Embryonic New Plant

"I am seeking the names and addresses of manufacturers of complete cotton mills . . . carding, winding, processing, dyeing, bleaching equipment, etc. . . . in hope of having a self-contained unit built by one of them . . . any consideration you may accord this request will be most sincerely appreciated."

M. A. GUERIN
Washington, D. C.

◆

Labor Management Article Interesting

"In your August issue appeared an article by Frank A. Constangy on 'Labor Management Relations Act.' We would like to have at least a dozen reprints of this article."

C. S. LINK, JR.
Avondale Mills,
Sylacauga, Ala.

SHORTS and REMNANTS

By M. L. D.

The Practice is Gaining

"We have been informed that your company can assist us in securing safety movie films, which are of interest in the textile industry. We are interested in obtaining some safety films for use in safety meetings of overseers."

FRANK H. EDWARDS
The Abney Mills,
Greenwood, S. C.

(Since the publication of "Visual Aids for the Textile Industry" in our July issue, there has been much expressed interest in the subject. Later we will enlarge on the list of films given in this article. On the subject of safety, a wider range of films may be obtained from the National Safety Council, 20 N. Wacker Drive, Chicago, Ill.)

◆

Printing of Piece Goods

"During 1944 you printed a series of articles written by Arthur E. Hirst on the subject 'The Printing of Piece Goods and Related Processes.' Would appreciate it if you can advise us if you have this series on hand."

HAROLD SCHWARTZ
Schwartz-Liebman Textiles, Inc.,
New York City

(Some reprints still available.)

◆

What You Don't See

If you could kibitz over the editor's shoulders you would be amazed at how much material never gets past his desk and into the process of production (your S & R reporter guesses far more is rejected than is accepted, which is the method used by a good editor to keep quality up). Manuscripts (rejected) are returned to the author or held pending satisfactory revisions to meet our editorial requirements.

Some publicity releases make the charwoman groan . . . many reflect the fact that the releasor has not studied our magazine to know where it goes and to whom it is directed and or for whom it is edited (we are probably on their list for anything churned out). New product releases come in on equipment entirely foreign to textile manufacturing operations.

Fashion notes by the gross, sometimes accompanied by photos of bathing beauties (?), try to lure their way to our pages.

Joe Zilch is appointed salesman in Fargo, N. D., where if a fellow doesn't talk wheat he is an outcast, so since there is nothing more than possibly a mop factory there, we don't get excited and tell you about Joe . . . there are several just as barren textile "sales markets" as Fargo.

That's the way it is, and the watchdogs of our editorial pages are not easily fooled, thank goodness . . . we want to keep that high quality of practical operating material so that the industry will continue to look to TEXTILE INDUSTRIES as the No. 1 textile publication.

Winding Machines

"I would like to obtain a copy of the series of articles written by Jesse W. Stribling entitled, 'Winding Machines — Work Load Calculations'."

P. DANA, JR.
Superintendent
Dana Warp Mills
Westbrook, Maine

In practically the same mail were similar requests from Mr. C. H. Swan, Jr., Craftspun Yarns, Inc., Scranton, Pa., and Mr. Thomas J. O'Leary, industrial engineer with The Crescent Co., Inc., Pawtucket, R. I. Mr. Stribling's series has evoked much interest since first published in 1943.

◆

Classroom Material

"We are interested in obtaining 25 copies of 'The Printing of Piecegoods and Related Processes' by Arthur E. Hirst. We would like to use this article in our classes."

GEORGE WALKER
Principal
New Bedford Textile Institute
New Bedford, Mass.

◆

A Friend in Argentina

"As subscribers of TEXTILE INDUSTRIES we would appreciate it if you would send us reprints of the following articles that appeared in former issues: 'Cotton Comber' by H. von Mattenberg; 'Preventive Maintenance at Dan River' by Frank L. Byrd; and 'Processing Procedures for Spun Rayon Yarns' by Leslie L. Cobb."

OSCAR ADOT ANDIA
Adot S.A.
Buenos Aires

◆

Indigosols

"If you have available reprints of the two recent articles on Indigosols by Mr. Ben Verity, we would be very glad to have about 10 copies. We want all our salesmen, technical men, and laboratory men to have a copy."

SAMUEL L. HAYES
Southern Manager
Ciba Company
Charlotte, N. C.

SALESMAN OF THE YEAR

Alabama Textile Operating Executives, meeting in Montgomery on October 11 (see story page 103 of this issue) came up with an innovation that recognizes the salesmen to the industry—those men who are specialists in their own lines, who serve the mills come rain or shine, and who spread good cheer. The salesmen themselves elected the "salesman of the year." Here he is, Jack K. Davis of Victor Ring Traveler Co. Jack lives in Auburn, Ala. Congratulations on the honor!

the Safe Bleach-

SODIUM CHLORITE

WON'T DEGRADE PULPS, FATS OR FIBERS

When most standard bleaching agents have oxidized up to a certain point—comes the attack! Fibers are tendered; pulps lose strength; fats revert . . . further bleaching must stop, or be subject to close, costly control.

It's a different story with Mathieson's Sodium Chlorite—and its co-product Chlorine Dioxide—the new bleaching agents which do not degrade pulps, fats or fibers, and hence permit safe bleaching to new highs in whiteness.

Mathieson
SODIUM CHLORITE

Sodium Chlorite Products . . . Chlorine Dioxide
Caustic Soda . . . Soda Ash . . . Bicarbonate of Soda
Liquid Chlorine . . . Ammonia, Anhydrous & Aqua
HTH Products . . . Fused Alkali Products . . . Dry Ice . . . Carbonic Gas . . . Sodium Methylate

WHITE COTTON WITH STRENGTH

Cotton fibers, when bleached with Mathieson's Sodium Chlorite (Textone) and hypochlorite, are not attacked. Thus better whites are possible with no loss of tensile strength . . . solutions need only slight control.

HIGH BRIGHTNESS IN PULP

Paper pulps reach very high brightness levels when bleached with chlorine and chlorine dioxide mixtures. Degrading effects are negligible, and pulp yields are high. The mixed-in chlorine cuts costs.

UPGRADING FATS NOW EASY

Lower grade fats are easily improved to a quality suitable for high-grade soaps, by bleaching with Mathieson's Chlorine Dioxide. No deterioration . . . improved color and odor . . . much higher yields.

Sodium Chlorite—a Mathieson development—is a stable chemical which is used directly for many bleaching and oxidizing purposes . . . or used in conjunction with hypochlorite . . . or as a convenient source of the powerful oxidizing agent, Chlorine Dioxide. Details on the many applications are yours for the asking. Write to: Sales Development Department, The Mathieson Alkali Works (Inc.), 60 East 42nd Street, New York 17, New York.

Textile Industries

NOVEMBER
1947

Our Stake in Europe

EUROPE faces another cold and hungry winter. Nothing stands between millions of people and great suffering, and perhaps death by starvation or cold, except the willingness of the United States to provide relief. England, which has charge of the control of a portion of conquered Europe is putting its people upon a standard of living little better than that of the more straitened portions of the Continent, in an effort to continue its occupational responsibilities until the Continentals can get back on their feet economically.

If the English become unable to bear their share of the responsibilities of occupation in Europe, we will have to take this over, because the moment the American and English forces are withdrawn from any part of Europe, the forces of Russia will move in. Russia has little to offer Europe except promises—and tyranny. But cold, hungry, and desperate people are easily beguiled by promises and are frequently willing to accept tyranny if it brings a little food and fuel, or even the promises of these.

If Russia moves into, and gains control of continental Europe, the United States will be no better off than if Hitler had gained undisputed control of it. While the Russians are taught to hate Fascism, and the Fascists were taught to hate Communism, the systems are almost identical. They are both totalitarian governments in which very small groups exercise complete control over every detail of life, and the minor technological differences between Fascism and Communism are inconsequential. The ultimate aims of both are the same—the complete enslavement of the world.

Before the Industrial Revolution, the population of Europe was regulated by the ability of the land to feed its people, but following the introduction of labor-saving machinery, most of western Europe tremendously increased its population by obtaining foodstuffs and raw materials from the New World in exchange for manufactured products of the Old. For the past 100 years or more, Europe has been unable to feed its people without access to the fields of America. These same fields must feed Europe now, as they have for generations, but the late war has almost completely destroyed the delicate economic system which had developed over the years for permitting a free interchange of goods between those countries which produced raw materials and those which paid for them with manufactures.

Europe for a hundred years or more has been a huge workshop, and the machinery is now largely destroyed or paralyzed. Men are largely creatures of system and routine, and when an intricately established system of life breaks down, it is not long before a state of chaos exists. This is history.

We had a rather severe lesson in this ourselves in 1931 and 1932. Few of us were very cold then, and few were very hungry. Our national economy was intact and there was no good reason why we should not have been just as prosperous in 1932 as we thought we were in 1928, except that the system had broken down temporarily. Whereas in Europe the great problem is food, shelter, and fuel, in 1932 our greatest national problem was probably finding parking spaces. There was nothing really wrong with the country except that the system had stalled.

Yet, in 1932 our people were so alarmed and discouraged over the failure of our industrial system to continue the millenium that had apparently been ushered in a few years previously, that they cheerfully turned to a group of politicians full of glib promises to bring back this millenium. These politicians had nothing but the politi-

Nothing could be more harmful to the interests of the United States or a greater threat to their safety than to have Europe fall under the control of a single dictator.

cian's usual remedy for economic distress—the remedy of inflation; yet we put them in power to regulate our affairs.

If we, suffering from the comparatively mild ravages of a simple depression, were so willing to listen to the blandishments of politicians promising the impossible, how simple it will be to regiment the really hungry, cold, and miserable millions of Europe behind Russian promises of a little help if we deny ours.

WHAT EUROPE needs is to go back to work. That was what the United States needed in 1932. That is the only remedy for economic depression. In 1932 our only excuse for not going back to work was that we did not feel like it, but in Europe there are not only millions of people who do not feel like going to work, but who have no place to work and nothing to work with.

The United States can not be expected to continue to feed and care for Europeans indefinitely, and our great problem is trying to organize European industry so that the peoples of that unhappy region can reestablish their workshops and get raw materials to set their economy in motion again. Whether we can do this is by no means certain, but we must undoubtedly try.

We have been embroiled in two earthshaking wars because the American people and those who governed them were not willing to take part in the settlement of European problems that directly affected this country. There is little doubt that both the First and Second World Wars could have been averted if this country had been willing to take an active interest in world problems that were directly affecting it in Europe.

Hitler could easily have been removed from power and the entire menace of Nazism neutralized if the United States, England and France had acted in concert in 1933 to nip the budding German militarism before it could develop dangerously. Even after our negligence had permitted it to develop, it is very doubtful if Germany would have risked embarking on war if we had made it absolutely clear that we would immediately participate in any European war

The Marshall Plan is aimed at helping Europe to get back on its own feet so that it can pay its own way once more. Help must come from America.

which threatened our interests.

Nothing could be more harmful to the interests of the United States or a greater threat to their safety than to have Europe fall under the control of a single dictator. We fought a bloody and costly war to prevent the Germans exercising such dictatorship, and we have now got to do whatever must be done to prevent the Russians exercising it.

The American people probably recognize in a vague and hazy sort of way that these things are so; that the British are up against it and are barely able by the utmost exertions to maintain their positions in Europe; that Europe is in ruins and starving, but just how much the American people are willing to give up for political and economic stability in Europe remains to be seen.

So far, there has been little indication that we are willing to *give up* anything. True, we have granted England a loan of nearly four billion dollars, and the British in spending this money have further pushed up the prices of many things in the United States. We have also spent very large sums for the purchase of foodstuffs and other necessities for Europe, and these purchases have also helped to raise prices in the United States.

We have generally regarded these expenditures as "helping business" and "promoting prosperity." This is the same idiotic reasoning that led us to conclude that the waste of war created prosperity. It is the same imbecilic logic that helped to create the great inflation of the 20's and bring on the depression of the 30's. In the 20's, as at present, we were shipping vast quantities of goods abroad to be paid for with our own money, lent in exchange for the worthless promises of people who probably could not have repaid the debts even if they had wished to do so.

We looked upon these farcical commercial transactions as we would have upon tangible business, and fatuously convinced ourselves that we were becoming prosperous by giving away our substance. We are doing much the same thing today. The enormous expenditures for relief in Europe are being looked upon as business profits instead of being written off as irremediable losses. Perhaps if we could have some sort of special tax which was earmarked as "Relief for Europe," the American people could get some true realization of what our responsibilities abroad are costing us, and be relieved of the fatuous idea that spending our own money for our own goods to be given away can add to our prosperity.

The Marshall Plan is aimed at helping Europe to get back on its own feet so that it can pay its own way once more. To put this plan in effect, Europe must have food, fuel, and machinery. The food must mostly come from America, and with it much of the machinery. Fuel is available both in Europe and England if the miners can be persuaded to dig it. As this is written, considerable numbers of British miners are out on strike, although coal is the very backbone of British industry, and the British Government is a Labor Government. The German miners are reported to be getting out little coal, for probably the same reason that the English miners are refusing to work—the inability to buy the things that they want with their wages.

People must have an incentive to work, and the most powerful incentive to work and earn money is the ability to buy, desired things with this money. The channels of trade must be reopened and goods made plentiful once more if productivity is to be raised in Europe and England. A Europe degenerated into one vast poorhouse would make a natural breeding ground for Communism, and a Communistic Europe is something that the United States must prevent at any cost—even the giving up of some of our treasured comforts and luxuries.

"Seascape" by Waldo Peirce

CONTAINER CORPORATION OF AMERICA

MODERN TEXTILE PACKAGING

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with FULL-FLOATING FOOTSTEP BEARING

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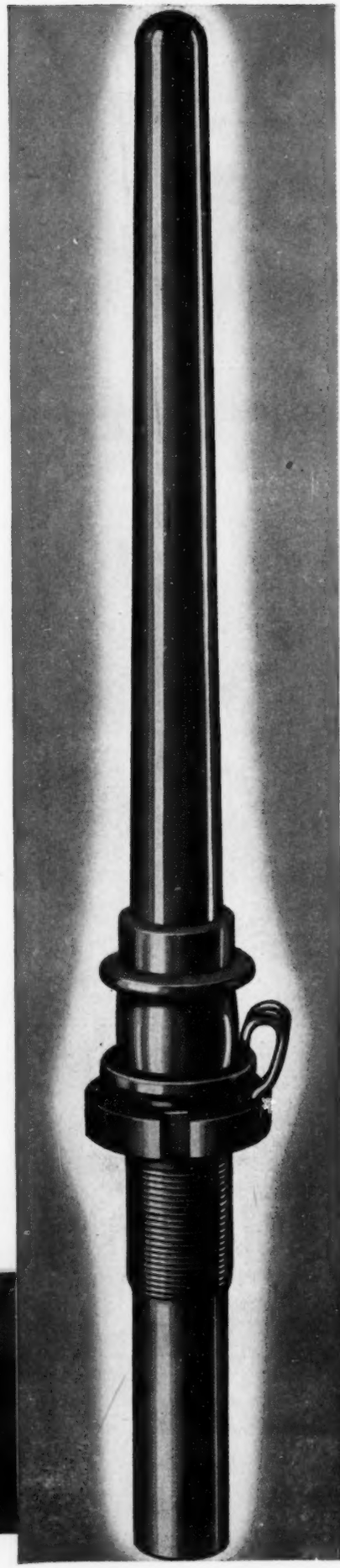

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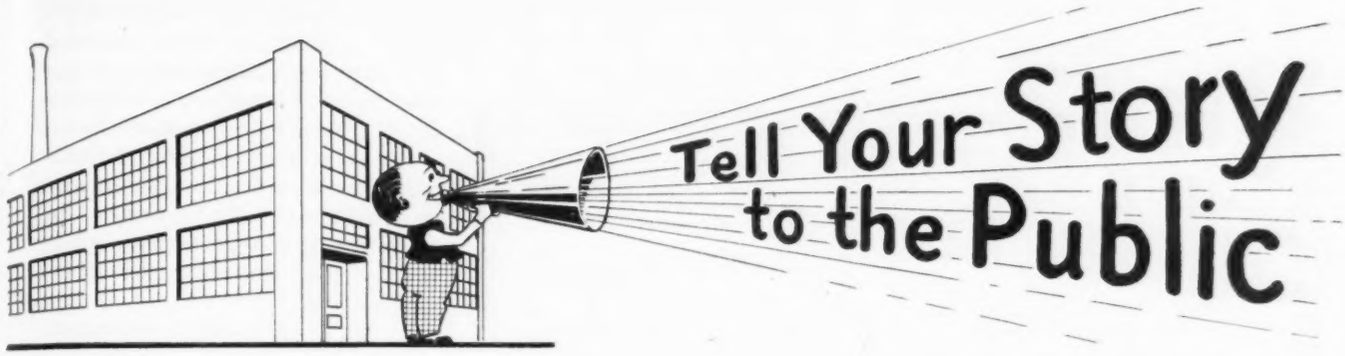


By HOWARD K. EATON
Director of Public Relations,
Johnson & Johnson, New Brunswick, N. J.

A TIMELY subject is presented here in a comprehensive manner by the public relations director of an organization that has taken its public relations seriously. The material is presented in two phases, the first portion of the article being devoted to a discussion of the principles and policies of public relations and the second to a description of the program at work.

ONLY A FEW years ago the number of industrial firms employing a full-time public relations executive or planning a carefully thought out public relations program could be noted on a few scraps of paper. Today, the firm lacking a program is the exception. But somewhere along the line something has gone wrong.

Although millions of dollars annually are flowing into public relations channels, the number of firms which enjoy good labor relations and good public relations just hasn't kept pace with the increased effort. Executives from manufacturing, sales, personnel, as well as corporate directors, are asking why. And rightfully so!

Perhaps public relations as a profession has grown too fast. Cliches which worked well during the war just aren't adaptable to this complicated post-war era of consumer demand and shortages: of high labor and material costs and general unrest. Briefly, there is no cure-all or blue print for a successful relations program.

"That's fine, but it won't work in my business" is the frequent comment when an executive who is beset with difficulties learns of a plan which seemingly worked well in another industry or in another section of the country. There are too many easy ways to hedge and excuse public relations shortcomings.

Public Relations Begins at Home

One popular formula blames the unions but it doesn't solve the problem. A good, sound public relations program does pay off—in dollars as well as in good relations and greater efficiency. (It's just about impossible to have good community public relations without having good employee relations as well, because employees usually live in the community and what they think of their company is pretty well what the rest of the community thinks.)

If you believe your community relations aren't the most important part of your public relations you might as well stop right here. Rule number one is *public relations begins at home.*

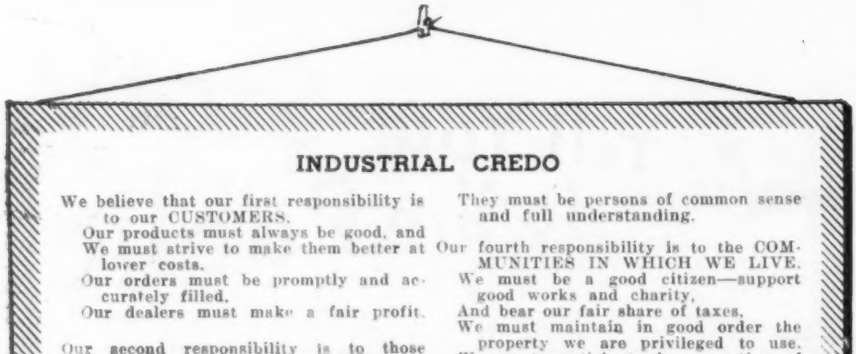
The textile industry isn't much worse or better than other industries in the state of affairs between itself and the public, and plenty of examples of what is proper and what is wrong may be found without looking into other fields.

One of the first questions a board of directors must ask itself today is whether or not it desires good public relations. And if it does, what about paying the price? There's much more than money at stake. Good public relations is a way of life, and administering a sound, practical public relations program calls for as great a degree of skillful managerial ability as manufacturing or sales. And it calls for cooperation up and down the line.

PR Requires Cooperation and a Budget

Too frequently, capable public relations executives forsake industry for independent practice as public relations counsel. Many find it difficult to obtain the required degree of cooperation or to secure an adequate budget. Unless a public relations program is supported wholeheartedly by the entire management structure of the firm it is doomed to less than 100 per cent results.

Johnson & Johnson is one of many organizations which takes its public relations seriously. Public relations for many years has been as integral a part of our policies and business philosophy as our manufacturing. Indeed, we believe that almost every phase of our business is touched by our public relations. This extends from product quality (which we believe essential to good customer relations) through our merchandising and sales, our advertising and pricing policies, our legal ethics and standards—the very appearance of our buildings and grounds, as well as our national public relations and our community and employee relations.



INDUSTRIAL CREDO

We believe that our first responsibility is to our CUSTOMERS.
Our products must always be good, and
We must strive to make them better at lower costs.
Our orders must be promptly and accurately filled.
Our dealers must make a fair profit.

Our second responsibility is to those who work with us—the MEN AND WOMEN IN OUR FACTORIES AND OFFICES
They must have a sense of security in their jobs.
Wages must be fair and adequate.
Management just,
Hours short, and
Working conditions clean and orderly.
Workers should have an organized system for suggestions and complaints.
Foremen and department heads must be qualified and fairminded.
There must be opportunity for advancement—for those qualified—and
Each person must be considered an individual standing on his own dignity and merit.

Our third responsibility is to our MANAGEMENT
Our executives must be persons of talent, education, experience and ability.
They must be persons of common sense and full understanding.

Our fourth responsibility is to the COMMUNITIES IN WHICH WE LIVE.
We must be a good citizen—support good works and charity,
And bear our fair share of taxes.
We must maintain in good order the property we are privileged to use.
We must participate in promotion of civic improvement, health, education and good government,
And acquaint the community with our activities.

Our fifth and last responsibility is to our STOCKHOLDERS
Business must make a sound profit.
Reserves must be created,
Research must be carried on,
Adventurous programs developed, and
Mistakes made and paid for.
Bad times must be provided for,
High taxes paid,
New machines purchased,
New factories built,
New products launched, and
New sales plans developed.
We must experiment with new ideas.
When these things have been done, the stockholder should receive a fair return.
We are determined with the help of God's Grace, to fulfill these obligations to the best of our ability.

"Tell your story to the public" runs the current bromide on successful relations. But there's a lot more to it than that. As presidents, general managers, supervisors or foremen and altogether you must ask, "How good is our story?" and more frequently, "What's wrong with our story?"

Objective Analysis Needed

After an honest and objective analysis of your story it often is desirable to measure how well you stack up with your employees and with your community.

The answer may be a surprise. Likely a lot you've been taking for granted may be misunderstood not only by your community but by your employees as well. Unless your business is the exception you will need help on this one and an investment in an independent opinion sampling may be worth far more than its cost. But even if you prefer to do it yourself you're sure to learn enough to make some improvements.

While this article will not attempt to reveal the panacea of public relations, and the writer realizes that profound thought on the subject is being given by most industrial executives, some of the stumbling blocks and a few highlights of what has worked well for Johnson & Johnson will be told.

The actual blueprint of the program is a matter for the consideration of each industry that is interested in improving its relations for whatever worth there may be in high employee morale, stable employee relations, and enthusiastic public approval.

The writer knows of no enterprise which could not benefit from better relations with its internal and external publics and believes that every executive in management, from the lowest level in supervision to the top, directly has a hand in the extent and success of these relations. If this seems like repetition, it is nevertheless so important that it cannot be overstressed.

The Johnson & Johnson concept of public relations is derived directly from our Industrial Credo, which has been widely circulated among our employees and to the public—through every medium that is appropriate and on every occasion which lends itself to our so doing. Our industrial credo is published in the accompanying box.

There are six principles which are fundamental to our public relations and which can easily be incorporated into almost any program. Additions to these principles may be provided if conditions and the nature of the business merit it, but the principles seem particularly adaptable to any phase of the textile industry in any section of the country. In fact they should prove satisfactory in any democratic society where free enterprise exists. These principles are listed herewith.

Fundamental Principles of Public Relations

1. Centering our effort around our products to insure quality and merchandising to enable maximum public use at the lowest possible price to the consumer.
2. Through research constantly seeking developments and refinements to benefit the public.
3. Payment of wages which assure to our employees a decent standard of living.
4. Efficient operation of the business to return a fair profit to our stockholders.
5. Recognizing our responsibilities—as a corporation—and conducting our affairs in a manner befitting our position and standing in the community.
6. Providing full information regarding our accomplishments, practices, policies, aims and employees through the use of all adaptable media.

Indoctrination Starts at the Top

We believe that every individual in Johnson & Johnson has a stake in our public relations and we find ways and means to bring this home to every person on the payroll. Indoctrination extends from our board of directors through all levels of management and to every employee of the company.

We constantly strive to build pride and loyalty and use every means at our command to do so. Often this proves to be hard work and requires careful thought and planning—many times considerable expense. But the results far outweigh the cost of neglecting this phase of our public relations program.

Teamwork

We are aware that our public relations are far from perfect and we are ever alert for improvements. By encouraging full par-

ticipation from our employees, we often are able to benefit from their suggestions in improving our public relations objectives as surely as we benefit from the more material gains from technical suggestions which improve waste control or promote greater mechanical efficiency.

Properly speaking, we believe that public relations is a two-way street, from the company to the public and from the public back to the company. We scrupulously practice complete honesty and frankness in all of our contacts with the public. We consider our employee relations as inseparable from our public relations and in our planning and execution each supplements the other.

Mail and telephone technique, the appearance of our people, buildings, grounds, equipment, and products all play a role in our PR.

Training of our employees is an important phase of our industrial relations and it affects our PR to a considerable degree. In addition to the usual employee benefits offered by many companies (retirement, insurance, general welfare, social clubs, and recreation activities) we have established one of the most comprehensive training programs ever undertaken by any industry. A later article will deal with some of the unusual features of the Johnson & Johnson training program.

The Public Relations Program at Work

"How about some specific results?" is a question we often are asked by the shrewd businessman who wants to evaluate the performance of our PR philosophy. Here's how we have done this and in terms that we actually were able to measure as objectively as an upward curve in the sales or manufacturing charts. Admittedly some adaptations would be necessary for other businesses, but the following outline of a community relations project could serve to guide almost any segment of the textile industry. The administration of such a program, as well as the long-range public relations policy ought to be in the hands of a capable public relations specialist who fully understands the nature and responsibility of his job. Nevertheless this offers an X-ray picture of how we completed one program and provides useful information for the executive who wants to improve his public relations.

The Project

The project was a three-week Open House which attracted more than 15,000 visitors to our company and enabled us to tell our story to the entire community under the most ideal conditions. The effect of this project upon our community was so favorable that we believe a similar undertaking by other industries will contribute support for free enterprise on the part of the public. Moreover, it encourages employee participation with a concomitant educational influence upon employees which is beneficial.

Although we believed our PR policies were sound and our program successful, a public opinion survey was taken through one of the prominent opinion sampling organizations. We learned that while local opinion was favorable toward this company, we were not getting full benefit from our activities. Misunderstanding in the community, through lack of information, centered in the following areas: Wages, industrial relations policies, the cleanliness and good housekeeping of our entire area, the scope of our business activities.

It was decided that full information should be given to the community regarding these factors as well as other pertinent facts. To accomplish this at once it was decided to hold an Open House and be host to the entire community. On February 14, 1947, a committee was appointed to prepare for the celebration of our 60th anniversary of incorporation to be held starting March 24.

A complete building with a floor area of 5225 square feet was made available to the committee for a display of the products made by the Johnson & Johnson companies as well as a display of our industrial relations practices. It was decided to have a tour of the plant precede this exhibit.

At the first meeting of the committee, the program was organized. Specific assignments were made to the committee members as follows:

Product Exhibit: This included

Open house at the New Brunswick, N. J., plant of Johnson & Johnson. Groups were invited as organized units wherever possible. These ranged from New Jersey State Chamber of Commerce and deans and professors to school children. The students represent future employees and are also an important segment of J&J community relations.

invitations to all our J&J product directors and subsidiaries to plan a product display of their products through a displayer to be arranged for by the committee; arranging appointments for a display specialist to meet with all product directors to plan their displays (responsibility for the display itself was left to product director).

Construction of Exhibit Area: This project entailed drawing up a plan of the available space, assigning space to each of the exhibitors and supervising the work of the carpenters, electricians and painters; contacting a displayer to arrange for stanchions and rope to form aisles; securing furniture for the outer reception room; working with an interior decorator to determine color schemes and floral displays to decorate the inner and outer reception rooms. This also included the supervision of the rebuilding of the front entrance designed by a display architect.

Industrial Relations: This included planning and setting up a display of our industrial relations practices so that our employees and the community might better understand our policies and practices.

A design architect was employed to design the booths and to plan the placing of the materials on the walls. Our advertising agency was called in to help write the copy to be included in the display. A sign company painted the posters which describe our personnel practices. A local artist painted several of the posters describing the activities performed by our office employees.

Old Product Display: A display of our old products was borrowed from the museum; these included the products produced in 1887 in one group and the products produced from 1888-1900 in another group. In the background were hung the pictures of some of our old-timers, showing their length of service.

Floor Model Display: Two floor models were displayed to illustrate our plans for expansion and modernization of existing floor space.

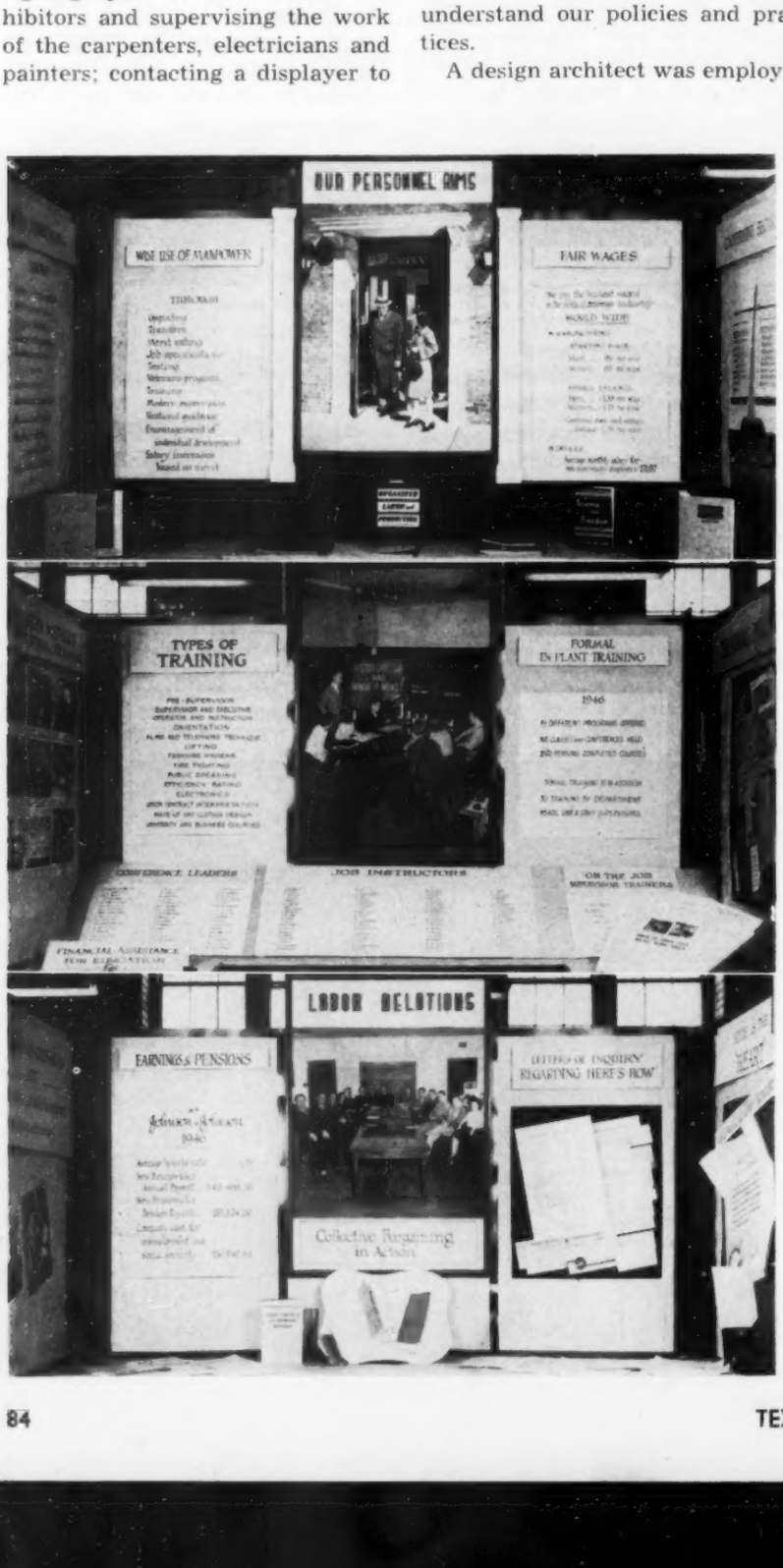
Tour of the Plant: A tour route was laid out to include the more interesting manufacturing processes. Guided tours were planned to take approximately one hour. A red strip of gauze with directional arrows was strung along the entire route.

Signs were posted in all the departments describing the operations taking place. Tour guides were arranged for and supplied by the office, manufacturing, engineering and mechanical departments. Two one-hour training sessions were held to train these guides in proper procedure of touring our guests.

Invitations: Personal letter invitations were sent to all the service organizations, clergy, professional groups, school teachers, city officials of New Brunswick and surrounding areas, county and state officials, and the state Chamber of Commerce to attend during the first week.

Our employees, their families and friends, and also the general public were invited to attend during the second week.

A third week was devoted to



Display of J&J industrial relations practices was prepared so that the employees and the community might better understand them.

Upon completion of the modern Lumite weaving plant at Cornelia, Ga., Chicopee Manufacturing Corp. of Ga. (a subsidiary of Johnson & Johnson) held open house to tell its story to the community.

All photos courtesy, Johnson & Johnson

our stockholders, high school students from the surrounding communities, Rutgers University and the New Jersey College for Women, and, due to the demand, additional time for the general public. A total of 15,800 people attended during the three week period.

Publicity: A publicity program was planned and carried out in cooperation with the local newspapers and radio station. A publicity writer was engaged to help with the preparation of daily news stories and pictures of the activities taking place.

Paid advertising, giving our attendance schedule and welcoming all guests, was utilized to supplement our newspaper and radio publicity. A series of eight 15-minute Special Events programs were recorded in various spots along the tour and exhibit area. These recordings were broadcast over the local radio station at 5:30-5:45 daily for the first eight days.

The announcer quizzed visitors, chosen from the various groups attending each day on their impressions of what they had seen. He described the types of exhibits to the radio audience and urged the townspeople to visit the plant during our celebration. All material to be broadcast including descriptions, questions, and themes were prepared in advance and recorded entirely unrehearsed.

Anniversary Booklet: A colorful anniversary booklet outlining our progress through the years was prepared, containing an illustrated description of the manufacturing processes seen on the tour. These booklets were presented to our guests at the beginning of the tour.

Photography: In order to give our product displays a human relations aspect and to better describe the manufacturing processes, a series of photographs were taken of many products and the people who make them and passed on to the displayer for proper mounting. This included contacting the product director on the operations to be photographed, engaging a local photographer, and directing him as to the type and number of pictures to be taken, cataloging these pictures by product, and supervising their placement by the displayer.

Gift Packages: After canvassing the field as to the type of gift which would be most appropriate, it was decided to present a gift box made up of our own and our subsidiaries' products. This involved contacting each of the product directors in J&J and the subsidiaries and gathering together a sampling of some of these products. After the contents of the gift box had been decided, a box manufacturer was called in to make up the box and wrapper. The packing was done at J&J.

Product Booth Attendants: The office and manufacturing departments were requested to supply girls to attend the booths. Each of the subsidiaries was asked to supply its own attendants if possible. Three one-hour training sessions were held to prepare the girls on product information and how to present this information to our guests.

Tour Directors: In order to facilitate the movement of our guests through the manufacturing and general office sections and from booth to booth, a carefully selected group of tour directors was chosen from the office and manufacturing personnel. These tour directors conducted groups of 15-20 guests through the exhibit area, directing attention to each of the booths and introducing the groups to the booth attendants.

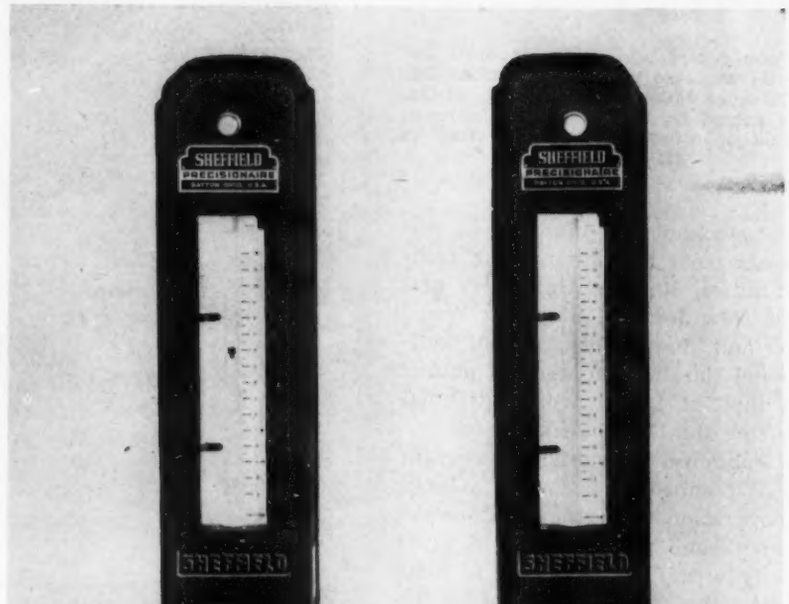
A 30-minute 16mm color motion picture was filmed during the exhibit, which completely documented every phase of our Open House from the reception of guests in the personnel offices where they were greeted, through manufacturing division and through each booth of the exhibit and the farewell lounge where each guest was presented with the gift box containing a generous sample of many of our products.

Of most benefit from the PR standpoint were the manufacturing tour, which permitted visitors to observe working conditions, and the industrial relations booths in the exhibit hall. Here we were able to tell our story to an interested and attentive audience under the most ideal conditions. In addition, the most pertinent information was repeated through publicity.

In analyzing the Open House, we concluded that the system of programming the invitations and publicity was responsible for creating enthusiastic response by the community, and because the visits were well planned and executed we were able to merchandise the desired information even beyond expectation.

Air Gauge Measures Fiber Fineness

By W. S. SMITH
Research Division
West Point Manufacturing Co.



The Sheffield Precisionaire for measuring fiber fineness.

A gauge originally designed for another purpose has been adapted for the measurement of fineness of cotton, rayon, wool, and other textile fibers. Advantages and operation are cited.

AN INDUSTRIAL model air gauge has been developed for measuring textile fiber fineness. Textile technologists have used air permeability or porosity as a means for determining textile fiber fineness since 1940. In that year Hertel* and his associates published their first experimental work, showing that fiber fineness and porosity are inversely correlated. Since these original investigations, several laboratory instruments of various designs and constructions have been built and used for the designer's own needs.

Air Flow Resistance

In principle, they are essentially alike. Air is drawn through a plug of fibers, and the resistance to flow of air is measured. Fine fibered stock offers more numerous air passages, but the average openings between the fibers are smaller, thus the resistance offered to the flow of air is geometrically greater than coarser stock. Evaluating the resistance to the flow of air, or conversely, porosity indirectly measures the degree of fiber fineness.

History of the Gauge

Simultaneously with the endeavors of fiber technologists to design and construct a suitable instrument for measuring porosity and to perform the necessary experimental work for standardizing testing procedure and interpreting the results, air gauging was being perfected. Air gauging was originally designed to measure diameters of holes or bores in machine parts or their counter parts. In these industries, specifications and tolerances of machine parts are strict and require close inspection. There was a distinct need for a simple, quick but sensitive means of gauging their dimensions. Extensive applications justified the research and production cost re-

*Hertel—Fowler & Hertel, Journal of Applied Physics, 11, 496, 1940.

quired to produce a standardized instrument of this type.

The first patents on air gauges were granted about twenty-five years ago, but the most important developments have been made within the last seven years. With a constant air pressure, a gauging head with standard dimensions is inserted into the opening to be measured. The closeness of fit determines the size of the opening through which air can escape, and the volume or velocity of the escaping air. To employ the principle of air gauging, instruments were developed.

Application to Textiles

Several months ago, we obtained a standard model of the Sheffield Corporation's Gagemaster Precisionaire for experimental purposes. For almost three years we had used an instrument designed and built in our own laboratory for measuring fiber fineness of cotton, rayon, and wool. It has also been used experimentally on a number of other textile fibers. Many of the possibilities and limitations of measuring fineness of these various fibers had already been encountered. Standard techniques and procedures had been used in our laboratory, and empirical calibrations of porosity to conventional units of fineness had been made. Our testing needs, however, had increased beyond our capacity. We needed more instruments, and it was a question of duplicating the model we had, or finding a standardized instrument equally or better adapted to measuring porosity.

Advantages

After preliminary experimentation, slight modifications were made that adapted the Sheffield air gauge to this specialized use. Several distinct advantages in operation and sensitivity were noted:

(1) Initial air pressure was automatically and accurately controlled. This insured dependability, and readings could be made almost instantaneously.

(2) Porosity readings on fine and coarse cottons, respectively, were separated by four or five inches on the scale. (A later model which we now use allows greater or less sensitivity, and the level can be raised or lowered.)

(3) The instrument is operated on compressed air, which is available in all our plants, and installation can be made with little additional cost at practically any place in the mills.

(4) Moisture traps are built into the instrument for disposing of condensation.

(5) Operation is extremely simple, quick, and noiseless. Two tests per sample can be made in two or three minutes.

(6) Duplicate tests seldom differ more than 0.2 micrograms per inch on cotton and usually less than 0.1 microgram. Inaccurate weighing and preparation of sample are the two chief causes of discrepancies.

(7) After initial calibrations, adjustments are not required.

(8) One of the special features is the linearity of the calibrated scale.

Photos courtesy, West Point Mfg. Co.

The author is testing fiber fineness with one of the air gauges in the laboratories of the West Point Manufacturing Co.

The rate-of-flow meter employed consists of an internally tapered transparent tube, mounted in a vertical position with the large end upward. A light metal float positions itself in the taper according to the velocity of the air passing through the sample.

Operation

When used as an air gauge the rate of flow depends upon the differential in area between the gauging head and the part being measured. The metal float is buoyed in the tapered tube until the area between the float and walls of the tube are proportional to the escape area. This automatically rectifies the scale to a linear graduation of diameter difference.

In a similar manner, rate of air

passage through a fibrous plug depends upon the cross sectional area of the air passages or interfiber space. For cylindrical fibers, this interfiber space will vary inversely with the square of the fiber diameters (approximately). The rate-of-flow meter thus gives practically linear graduation for fiber fineness along the tapered tube. This is a distinct advantage over the back-pressure type of gauge which always gives a curvilinear relation between pressure reading and fiber fineness.

Porosity of a fibrous plug also depends upon the amount of fiber, its thickness and density, arrangement of fibers, fiber shape, and possibly its surface characteristics. For practical reasons we have found it desirable to maintain a constant weight of fiber, and confine it to a space with fixed geometric dimensions, which directly control its thickness and density.

When measuring various types of fibers that differ both in shape and specific gravity, separate calibrations are used. Each type of fiber, such as cotton, viscose, acetate, and wool is calibrated independently and empirically from samples of known fineness. Graduations for each type are in their conventional measure of fineness. For instance, cotton fiber fineness is read directly in micrograms per inch, rayon in denier, and wool according to grade. In every case, position of fibers is randomized, and unequal densities are avoided by fluffing the fibrous mass before placing it in the container.

Variables

Difference in fiber shape, when each type is calibrated separately, is not particularly important, except for cotton. Cotton varies in fiber shape more than other textile fibers. Fully mature cotton fibers have almost circular, or elliptical cross section, while immature fibers are often collapsed into the form of a ribbon. Because of this shape variable, perfect correlation between fiber weight per inch and porosity is not attained. The result is a scatter of data along a trend line.

To those acquainted with cotton fiber measurements, this is expected, and by no means excludes porosity as a practical measure of fineness. Conventional methods of measuring fineness usually require hours instead of minutes, and are determining on only a small percentage of the samples used in porosity tests.

Trash or foreign matter usually increases porosity slightly (dust has the opposite effect), but for practical purposes small amounts can be ignored. In both cases the weight of foreign substance displaces an equal weight of fiber from the weighed sample, and affects porosity according to its degree of fineness. For the same reason, oil in wool gives a slightly coarser grading.

Moisture has a slightly more complicated effect as it also tends to swell the fibers. Under most conditions the effect is slight. Readings, however, should be made quickly as the passage of air has a conditioning effect.

Sheffield became interested in this particular use of their air gauge and are now manufacturing a complete instrument for measuring fiber fineness. For understandable reasons, they are not calibrated for any particular textile fiber. Each customer, however, may easily calibrate his own instrument to satisfy his own standard for fineness of the fiber in which he is interested.

Cotton Insulation Program for 1948 Announced by USDA

The U. S. Department of Agriculture has announced continuation, at a lower incentive rate, of its program to promote the use of low-grade, short-staple cotton in the manufacture of insulating materials used in homes and other structures. This program is part of the Department's efforts to develop increased markets for cotton of the qualities for which farmers have the greatest difficulty in finding outlets.

During the current fiscal year, manufacturers who hold approved applications will receive 5¾ cents per pound, gross weight, on cotton used in compliance with the program provisions, it was stated.

The $500,000 already allotted to the program is reported sufficient to provide payments on the use of about 17,500 bales of cotton, a quantity approximately equivalent to that used under the program from March through June 1947. It is understood that consideration will be given to allotment of additional funds needed through June 1948.

Application for participation in the program must be filed with the Cotton Branch, Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Chemical Developments of Textile Interest

A method for removing the humic substances from the cellulose residues obtained when determining the degree of crystallinity of cotton and other cellulose fibers, was described during the recent national meeting of the American Chemical Society. According to the paper, which was presented by Mary L. Nelson and Carl M. Conrad, of the Southern Regional Research Laboratory, ethanolamine used as a hot 50 per cent aqueous solution proved to be the most practical solvent, since a five-minute extraction with it removed the humic substances, while dissolving only a negligible quantity of the cellulose residue. Included in the paper was a detailed description of the latest recommended procedure for determination of degree of crystallinity by acid-hydrolisis.

Purification from mold of an orange-red pigment that may prove to be a valuable natural dye was announced to the Society by Prof. F. F. Nord and S. Weiss of Fordham University. Recently, the pigment produced by the mold called Fusarium Solani D_s purple has been isolated and investigated, the report declared, explaining that the pure pigment is orange.

Scavenger Waste Collection

Simplified at Fieldcrest

AN IMPROVED system for scavenger waste collection has been adopted by the Towel Mill branch of Fieldcrest Mills, at Fieldale, Va. The new method was devised by Guy G. Going, foreman of carding and spinning, who submitted his proposal as a suggestion under the work simplification program there. The mill management approved the proposal, and an experimental model was constructed and proved successful.

Old Method

The old method of waste collection was cumbersome and time consuming. The spinners dropped the waste through a hole in the top of a box that was placed on the floor, and the collector had to reach into the box and remove the waste a handful at a time. The waste was then placed in sacks which were delivered by motor truck to the opening room at the foot of a hill below the mill.

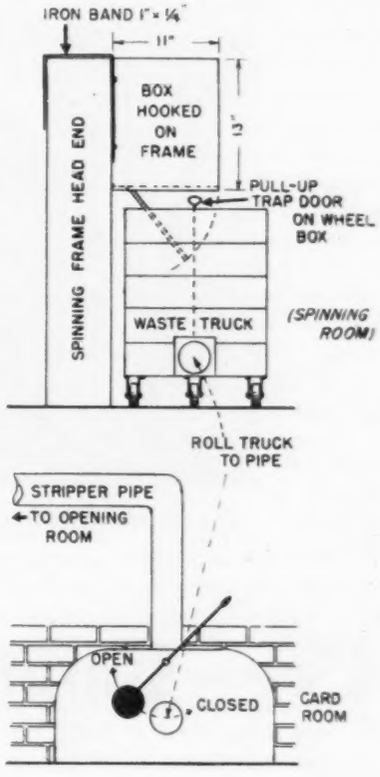
New Method

The new method utilizes a box with a swinging bottom which is placed on the spinning frame, and into which spinners drop scavenger roll waste. The collector simply pushes a box truck under the waste box, unhooks the swinging bottom, and lets all the waste drop into the truck. The waste is then trucked to the end of the room where it is fed into a pipe and is pulled by vacuum to the opening room. No new suction apparatus is required, since the method utilizes the same vacuum system used in stripping the cards.

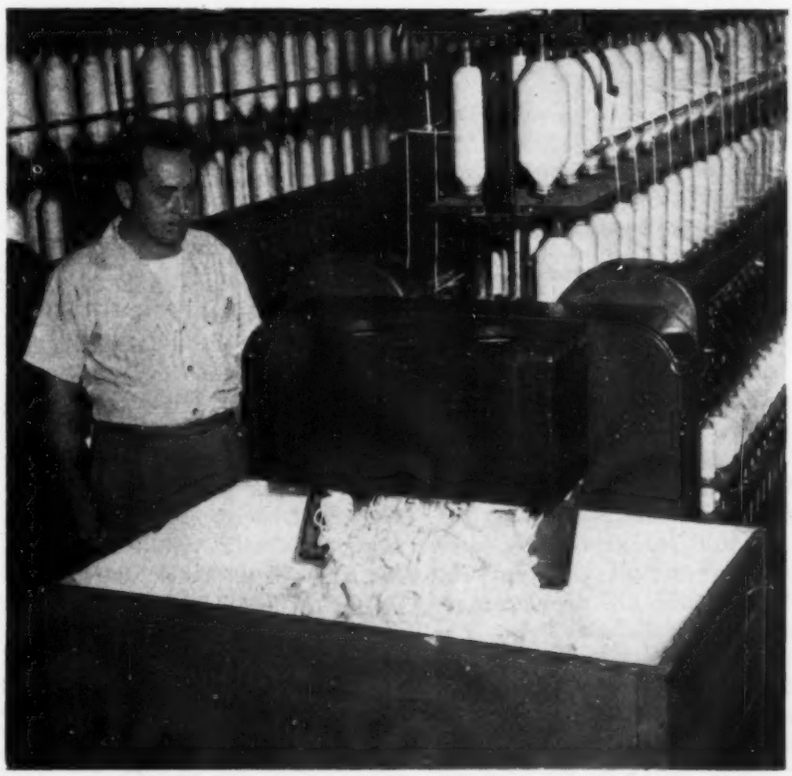
When the scavenger waste is being drawn through the stripper pipe, the cards are not being stripped, therefore no necessity exists for separating scavenger waste from strips. The waste is pulled approximately 700 feet down to the opening room into the stripper tank (as shown in the accompanying illustration of the system). It is then raked out into a wheel box and is rolled behind the Garnett machine to be re-run. This procedure is followed once on each shift.

The waste truck is provided with a hole near the bottom. This hole matches a similar hole in the card stripper vacuum pipe. When the waste truck is ready to be emptied, it is placed in position against the vacuum pipe, and a trap door is raised which exposes the hole through which the waste is drawn.

The old system required three hours for waste collection. The new procedure has reduced the time required to 30 minutes.



Mr. Going shows how easy it is to dump scavenger waste into truck.



The eye examination is one of the most important. Depth perception is being checked here.

Pre-Employment Physical Exams

By W. M. PITTENDREIGH

Reigel Textile Corp.
Ware Shoals, S. C.

System to install program—personnel needed—rejection policies for defects and diseases—benefits derived from program—costs involved.

THE PRE-EMPLOYMENT physical examination is the first step toward a controlled accident and health program. Unless the physical condition of an individual is known, facilities to safeguard his health cannot be installed. Any safety program is directly tied in with the health of the individual, so we see that we cannot have a workable safety program without a health program.

The success of the health program will depend upon personnel of the department. Such a program should not be set up without thorough investigation on the part of management and the doctor who is to give the examination.

Time and study must be spent in inaugurating this program. The first line supervisor through management must be sold on it. The doctor must realize the importance of it and will need to spend time in the particular plant to become acquainted with the various duties of each operation so that he will be able to determine the physical requirements for the operation which the individual must perform. Careful study also should be made of the experience of those plants which have this type of program.

Full Time Nurse

It is a program which will incorporate having a full time nurse on at least one shift. This full time nurse must be picked carefully, for she, in her constant contact with the people, will make or break the program. She needs to be cheerful, energetic, and should have a pleasing personality. As health programs are relatively new to the industry, it becomes one of her duties to be a salesman.

I wish to bring out here that pre-employment physical examinations take only a small part of the nurse's time. It is the follow up of accidents, visitation to absentees, aid to the sick in the com-

munity that will require most of her attention. And, as previously stated, the pre-employment examinations are of no value unless they are tied in with the follow-up health control.

The pre-employment examinations will require a series of rooms; these should be equipped only after full discussion with the doctor, nurses, and management. When starting the program, the doctor and nurse will need a great deal of cooperation because they will rely solely on the judgment of the supervisors and management of the plant to advise them in attending to various details which will arise from time to time. Later, with experience, they will be able to carry on alone.

Known Physical Defects Prevent Fraudulent Claims

One of the first things that pre-employment physical examinations will show are physical defects such as rupture, defective vision, dermatitis, tuberculosis, and physical deformity. Knowledge of such conditions may later eliminate fraudulent claims for personal injury.

Experience has shown that rejections usually fit into the following classifications: venereal disease, varicose veins, high blood pressure, hernia, defective vision, pregnancy, infected extremities, low blood pressure, dermatitis, phlebitis, nervousness, diabetes, and case histories.

Venereal Diseases

In setting up a policy on rejection of venereal diseases, it must be taken into consideration that it is only for the past few years that this dreaded disease has been brought into the open and only recently have we been doing anything about it, which means our rate of affected persons is extremely high. Taking this into consideration, only those persons in the contagious stage should be rejected; those whose blood test shows them to be affected, but not contagious, should be granted the privilege to work if they submit to treatment. This treatment should be paid for by the individual. In cases where they are not able to pay, the health department will usually furnish treatment free.

Hernias Costly to Mill

As to a policy of rejections for hernia, the Workmen's Compensation Act will require the organization to repair a hernia even though the person is affected before employment and the condition became aggravated during employment. Applicants with hernia should be rejected or employment deferred until the hernia has been repaired. This may seem to be a hard policy, but a mill should not be penalized the cost of a rupture repair unless it actually occurred on the job.

Vision Tests

The eye examination is one of the most important. It is more than putting a chart on the wall to determine whether or not a person can read. The doctor wants to know if he has depth perception.

I believe that a high percentage of our accidents come from poor depth perception and poor vision. Many jobs in the textile industry require a high standard of vision, and these standards should be kept high to protect the employee. A person suffering from poor vision is constantly straining his eyes, which will result in headaches, nervousness, fatigue and indigestion.

It is during the vision tests of the examination that eye safety should be explained, and the use of prescription safety glasses and goggles urged. Also at this time data are recorded on the individual's percentage of vision so that if an accident further impairs his vision we can know to what extent the mill is responsible.

Poor depth perception means that the employee cannot work in close contact with moving machinery and have the required safety margin to prevent accidents. Require the applicants with defective visions to secure glasses before employment.

Cases of Pregnancy

The doctor will reject pregnant women, and this is right as it is easy for them to do something on or off the job which might cause a miscarriage, and the blame may be placed on the operation which they perform in your plant.

Watch very closely for infected extremities because of the inclination of a rather large group that will claim poisoning by rayon or various chemicals used in the trade.

Close attention should be given to case histories for it is here that the serious accidents might be prevented or accident-prone individual be discovered. The following cases give examples on this point:

A woman applied for work after having been released only three weeks previously from a hospital where she had undergone a major operation. Had this individual been given a job, any slight strain or blow to her abdominal walls not yet healed would have resulted in serious injury and several months disability. The doctor should be the sole judge as to how long one should remain away from work after an illness.

Another case: A man applied for a job of slasher tending, and his case history showed that six months previously he had been injured in an automobile accident, receiving a serious back injury. He had discarded the brace which he was supposed to wear and was taking narcotics daily to relieve the pain. Had he been employed the mill would have had a lost time accident, because lifting is required on this job.

Dexterity Tests

Another test which the employee should stand is one of dexterity. Usually this test is thought of in connection with placement; however, in my mind it is definitely a physical condition and should be so checked. One with poor dexterity would be hazardous around moving machinery.

X-ray of the chest either by the doctor or the periodic check made by the various mobile units of the T. B. Association prove their worth as a means of probable recovery for the affected persons.

Heart Condition and Blood Pressure

Heart condition and blood pressure should be checked carefully. High blood pressure might result in heart attack or stroke. Persons with low blood pressure are sub-

ject to dizzy or fainting spells. In either case, when one of these attacks comes there is a probability of the employee's falling into moving machinery. Active employment of anyone with high blood pressure aggravates the condition. Low blood pressure means that a person will not be physically able to maintain production on a full day's work schedule.

Laboratory check for sugar should be made. If sugar is found present it is an indication of diabetes; only when the specimen is negative should the applicant be hired. There is always the probability of a diabetic going into a coma on the job.

Acute kidney infections may also be found in urinalysis. Many of the back injuries are direct results of these conditions.

Pre-employment physical examination reduces the possibility of delayed convalescence from an injury due to the physical condition of the employee at the time of accident. Heart conditions, varicose veins, diabetes, venereal disease, pregnancy, and acute kidney conditions retard the recovery from an injury. An injury to varicose veins causes ulcers. Diabetics tend toward gangrene when injured. Venereal disease retards the proper knitting of bones and repairing of tissues. In pregnancy, lifting small loads after three months is dangerous.

Labor Turnover

In the reduction of annual labor turnover, the pre-employment physical examination is of value. A well person is a happy person; therefore, if the applicant is found to be in good health, better labor relations will exist. Poor physical condition causes worry and naturally results in low production and poor quality; because of the unrest of the mind and the poor health, employees tire quicker.

Better labor relations will exist because when a person is happy on the job and is producing good quality work there are no grievances. Grievances usually occur when the worker needs constant correcting to improve his quality. We find that, because of both the correcting by the supervisor and the fact that they tire more quickly, these workers become dissatisfied with their jobs and leave employment to seek greener pastures. Also, it is my opinion that when an employee knows that there are no contagious diseases in his work area he is better satisfied and appreciates what the management is doing to safeguard his health.

Absenteeism

The pre-employment physical examination has reduced absenteeism because those persons who are not capable of working the 40 or 48 hour schedule will not be in the mill. Anything that might be done to reduce absenteeism is a step further along the way toward a better safety record. We find employees being placed on a job just for a day and often they turn up with an accident ranging from minor to a major disability.

An illustration: In a spinning room the roving hauler was out. a spare hand was placed on th job. After working three hours h was leaning over, taking roving from the bottom of the truck; his foot slipped and placed him in an awkward position, resulting in a hernia and breaking a good safety record.

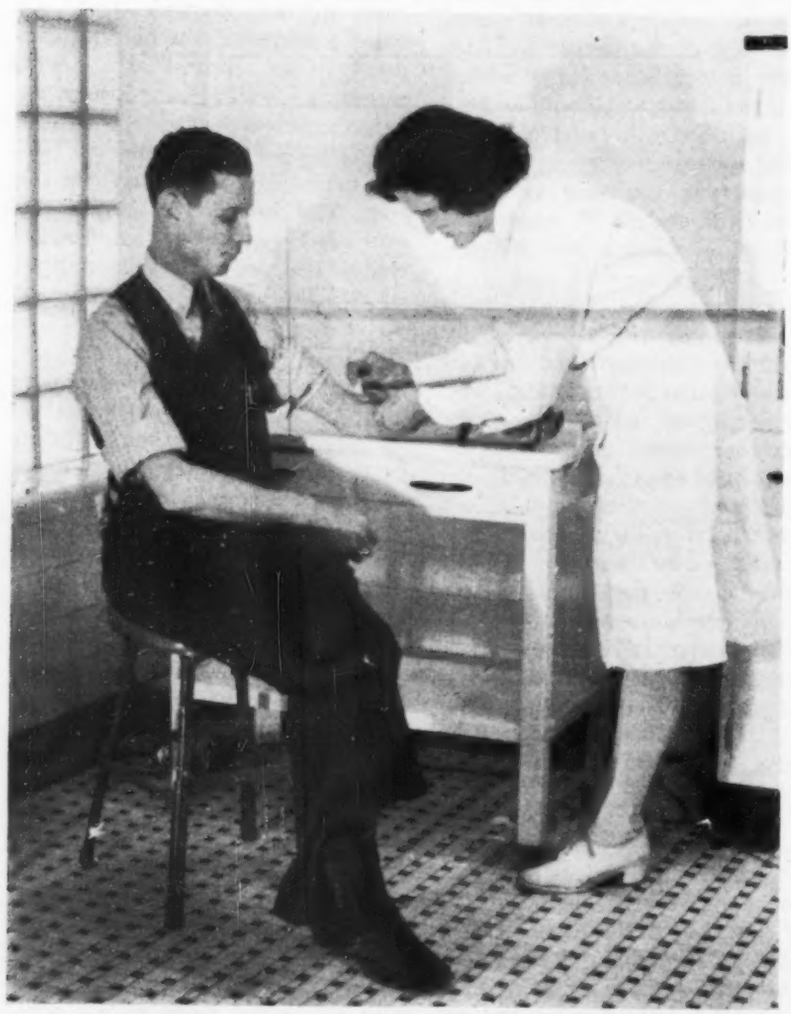
Costs of Program

Pre-employment physical examinations can be justified from the cost angle because, when the aforementioned points have been added to the safety program, there will be a reduction in accident frequency and accident severity rates and, in like manner, a reduction in insurance rates.

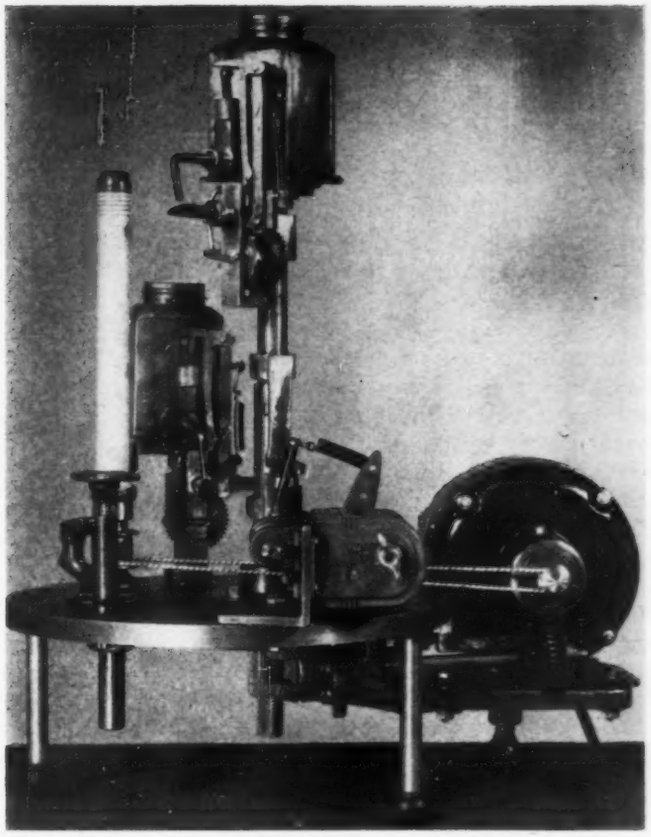
Suppose the physical examinations cost $1,800 per year. This figure is an estimate for a mill having 850 employees with a normal la-

(*Continued on page* 200)

Nurse takes a specimen of blood for blood test.



Bobbin Painting Machine



Painting bobbin tips reduces faulty work. Use of bobbin painting machine speeds painting job.

MANY TEXTILE manufacturers have learned that better results may be obtained in weaving and other processes by painting the tips of bobbins. This reduces the tendency for the yarn or roving to hang on small splinters, split places, and other obstructions.

The painting of bobbin tips has been found to be especially important when running fine yarns on which the least resistance to the yarn as it leaves the tip of the bobbin causes it to break, or in some cases, become fuzzy. This is especially true when running fine yarns in loom shuttles. The resistance to yarn at the bobbin tip under such conditions will break the yarn and lower loom production or cause defects in the cloth.

A machine for painting both bobbin tips and bases is in use, being patented by D. A. Jolley Co., Kannapolis, N. C.

The production of the bobbin painting machine is said to be 10,000 bobbins per day of eight hours. This is the average production; the maximum production per eight hour day is reported to be 12,000 bobbins. One person can run the machine. The amount of paint applied to the tip of each bobbin is uniform.

The machine consists of a cylindrical plate about one-half inch thick on which the other parts are attached. Legs approximately three inches long are on the underside of this plate. A cam and shaft driven by a pulley on the outer edge of the plate are also underneath, being near the center. An electric motor drives the pulley on the outer edge.

An adjustable vertical sleeve supports a tank with attached spout, a brush, and attachments. The spout has a ball bearing inside, which is released by air pressure to let the paint out of the tank. The amount of air pressure can be adjusted by turning a screw, thus controlling the amount of paint applied to the bobbin tip.

Operative painting bobbins with the D. A. Jolley machine.

The bobbins are driven at 800 rpm in order to take the paint off the brush. A hand rest is close to the spindle and is also used to start the bobbin painter for operation on a bobbin. By pressing down on the hand rest with the side of the hand, the cam operates to bring the brush in contact with the revolving bobbin, the time of contact being just sufficient to paint the tip of the bobbin as it revolves.

The bobbin painter can be provided with attachments for painting both the tips and bases of bobbins.

The painted base makes it easier for waste yarn or roving to slide off for removal by workers instead of cutting it off with a knife; the latter practice will ruin a bobbin.

Economical Skein Reeling

By ROBERT M. HARBECK
Sales Engineer
Fidelity Machine Co., Inc.

A COMPREHENSIVE discussion of methods of determining whether the skein reeling operation is being accomplished on an efficient basis. Formulas and graphs are presented which should be useful to mill superintendents, overseers, and assistant overseers in plants where skein reeling is done.

SKEIN REELING has been one of the step children of the textile industry. It is a necessary operation in the dyeing, sizing, and mercerizing of many yarns, but because it is a comparatively simple procedure, very little thought has been given to improvement of skein reeling machines until recent years.

In 1939 the first short-reel machines were built. Studies were made of the long-reel machines, and the time of leasing and doffing the skeins was compared with the winding time for the worsted skeins. It was found that two skein reelers, each holding five skeins, could be operated economically by one operator.

With this principle established, the short-reel machines could be and were built with a free end, and this reduced the physical labor as well as the time required by the operator to doff the skeins. Improvements in the design of the machines have been made and machines were built of larger size so that these skein reelers are now being used successfully for cotton, rayon, and nylon, as well as wool and worsted yarns, with savings in both labor and floor space.

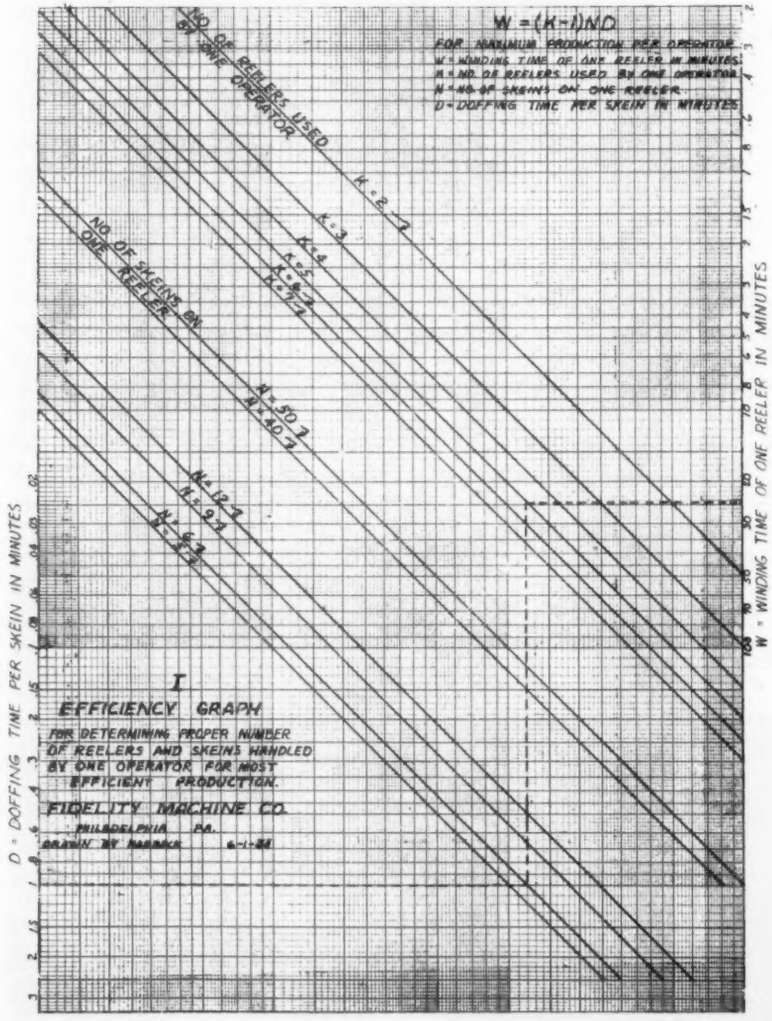

W = (K-1)ND
FOR MAXIMUM PRODUCTION PER OPERATOR
W = WINDING TIME OF ONE REELER IN MINUTES
K = NO. OF REELERS USED BY ONE OPERATOR
N = NO. OF SKEINS ON ONE REELER
D = DOFFING TIME PER SKEIN IN MINUTES
NO. OF REELERS USED BY ONE OPERATOR
K-2-1
K-3
K-4
K-5
K-6-1
K-9-1
NO. OF SKEINS ON ONE REELER
N-50-1
N-40-1
N-32-1
N-24-1
N-16-1
D - DOFFING TIME PER SKEIN IN MINUTES
W - WINDING TIME OF ONE REELER IN MINUTES
I
EFFICIENCY GRAPH
FOR DETERMINING PROPER NUMBER OF REELERS AND SKEINS HANDLED BY ONE OPERATOR FOR MOST EFFICIENT PRODUCTION.
FIDELITY MACHINE CO.
PHILADELPHIA, PA.
DRAWN BY HARBECK 6-1-39

Fig. 1. Efficiency graph. It is realized that the graphs reproduced for explanatory purposes in this article are almost too small for accurate engineering use at the mill. Working size graphs were secured from Fidelity Machine Co., 3908 Frankford Ave., Philadelphia, Pa.

Computation of Production

In computing production of a number of skein reelers attended by one operator, the variable factors must be represented by letters of the alphabet.

Let P = Production in pounds of yarn per hour.

W = Average winding time for each skein in minutes

K = Number of independently operated reels attended by one operator.

N = Number of spindles or skeins on one machine.

D = Average total doffing time of one skein in minutes.

S = Weight of each skein in ounces.

The total doffing time represented by "D" includes the operator's time for cutting the yarn at the end of the skein, leasing or tying the skeins, collapsing the reel, removing skeins from the swift, assembling the swift, fastening ends of yarn to reel, resetting counter, starting rotation of reel, replacing supply bobbins or cones, and repairing breaks of yarn or machinery.

Theoretical Production

In the ideal situation, the operator completes the doffing of skeins on one machine, starts it winding and moves to the second machine; at the instant the second machine completes its winding, it is doffed and started again; he then moves to the third reeler, and so on. When the operation is completed on the last machine, the first machine has completed its winding.

In other words, the total doffing time of all machines except one, equals the winding time on one machine. This is assuming that the same kind of yarn is used on each machine, and winding times on all machines are equal, the doffing operations are the same, and the speed of the operator is the same throughout the cycle. Placing this in the form of an equation, we have

$$W = (K - 1)\,ND \qquad (1)$$

If the doffing time (as explained previously) is equal to or exceeds the winding time, the production equals the weight of skeins doffed by the operator per unit of time, or

$$\text{Production} = \frac{\text{Weight of skeins}}{\text{Unit of time}}$$

Substituting the letters previously mentioned,

$$P = \frac{S \times 60}{16 \times D}$$

$$\text{or } P = \frac{3.75\ S}{D} \qquad (2)$$

Graphs of Formulas 1 and 2 are shown in Figs. 1 and 2 respectively. Scales are shown in the margins. To use the graphs, pick out the known factors on the margins; follow the line perpendicular to that margin to the intersection with the proper diagonal line; then proceed at right angles to the proper margin value or to another set of diagonals; and, again at right angles to another value shown at another margin.

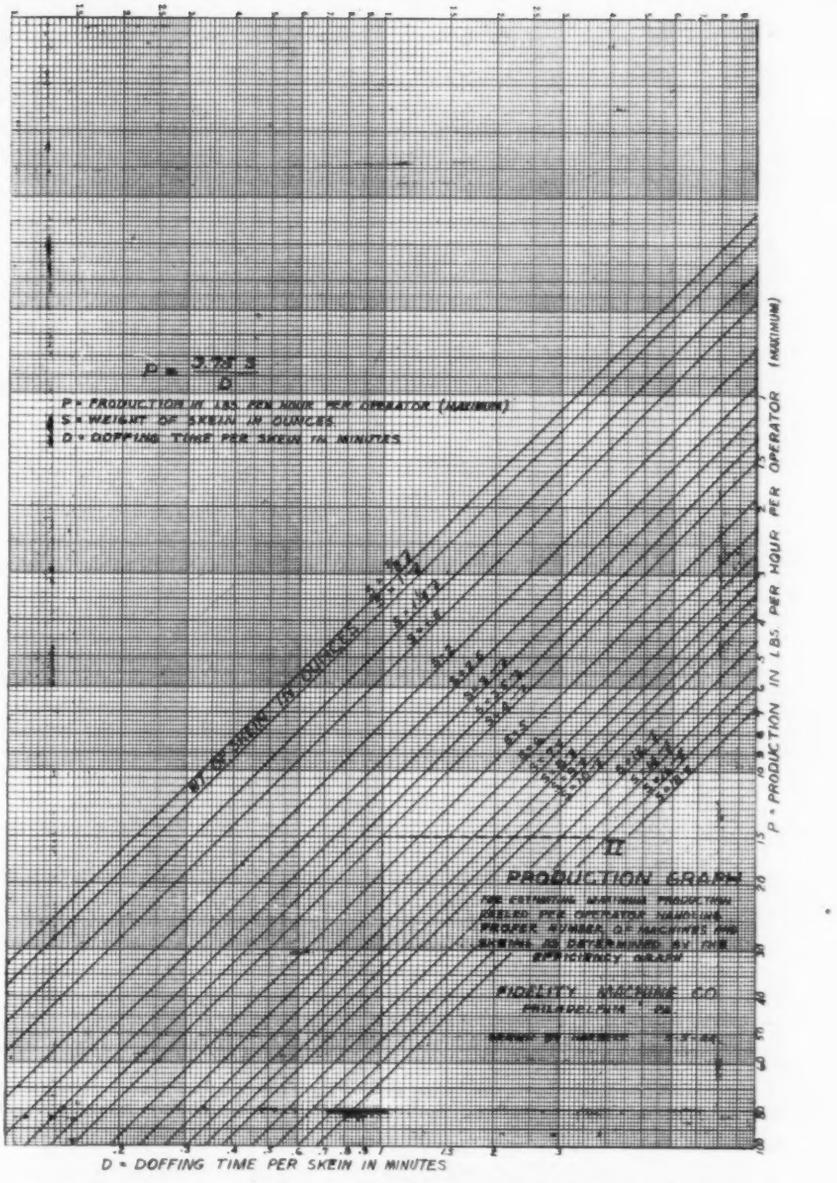

P = 3.75 S / D
P = PRODUCTION IN LBS. PER HOUR PER OPERATOR (MAXIMUM)
S = WEIGHT OF SKEIN IN OUNCES
D = DOFFING TIME PER SKEIN IN MINUTES
PRODUCTION GRAPH
FIDELITY MACHINE CO.
PHILADELPHIA - PA.
P = PRODUCTION IN LBS. PER HOUR PER OPERATOR (MAXIMUM)
D = DOFFING TIME PER SKEIN IN MINUTES

Fig. 2. Production graph for estimating maximum production reeled per operator handling proper number of machines and skeins as determined by the Efficiency Graph.

Graphic Example of Facilities

In Fig. 1 an example is shown in dashed lines. Assume that the winding time is 24.5 minutes, the doffing time per skein is one minute, and it is desired to find how many machines of six skeins each are required to give maximum production.

Locate the horizontal line for a winding time of 24.5 minutes shown on the right hand margin and the horizontal line for the doffing time of one minute shown on the left hand margin. Place a straight edge in a vertical position intersecting these two lines at right angles. Then the upper intersection shows the number of machines required and the lower intersection shows the number of spindles on each machine. By moving the straight edge to the right or left the proper number of machines and spindles can be found. The example given shows five machines of six spindles each or a total of 30 spindles. By means of this graph, rapid visual solutions can be made of any applicable set of given variables.

In Fig. 2 an example is also shown. Assume that the doffing time is one minute, the size of the skeins four ounces, and the production unknown. On the bottom margin find the doffing time of one minute; follow the vertical line to the value of four ounces for the weight of skeins as shown on the diagonal lines; then turn at right angles and read the production of 15 pounds per hour on the right hand margin at the same horizontal line located by the intersection.

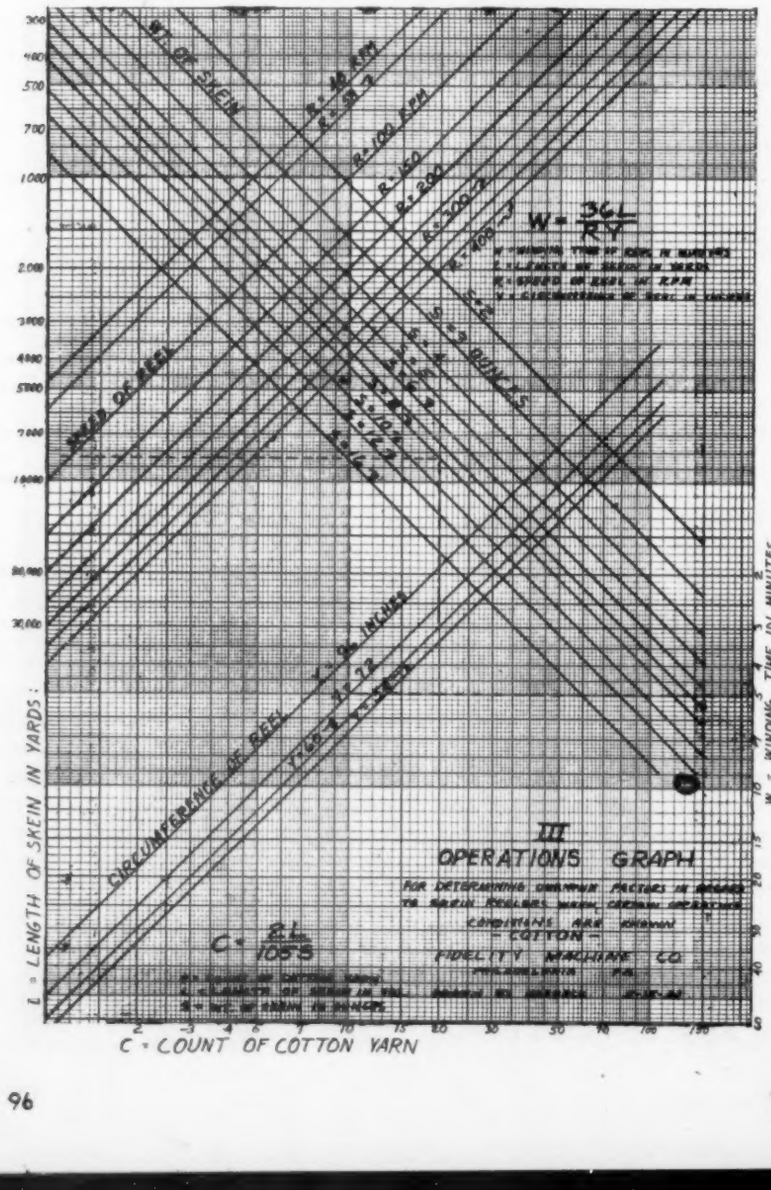
It should be emphasized that only the weight of skeins and the doffing time required affect the production to any appreciable degree. It is true that one type of skein reeler may require more labor in processing skeins than another and therefore the "doffing time" as explained will increase and production will decrease. But, in general, the length of skein, circumference of skein, kind of yarn and other similar factors do not increase or decrease the quantity of reeled yarn produced.

Inefficient Skein Reeling

If the winding time exceeds the doffing time of all the machines except one, the solution becomes a little more complicated but just as rational. The operator then has idle time equal to the difference between the winding time and the doffing time of all the machines except one, or

$$\text{Production} = \frac{\text{Weight of skeins produced by all machines}}{\text{Total doffing time plus idle time of operator}}$$

Fig. 3. Operations graph for determining unknown factors in regard to skein reelers when certain operating conditions are known.



Substituting the letters assumed and changing the minutes to hours and the ounces to pounds, the equation becomes:

$$P = \frac{3.75\ S\ N\ K}{NDK + (W - (K\text{-}1)\ ND)} \qquad (3)$$

A simple graph cannot be made of this equation because it would require an infinite number of curves to provide for solution of any problem. Therefore, it is necessary to use the equation for practical problems.

The winding time of a machine depends on the length of yarn to be reeled, the speed of the reeler, and the circumference of the reel.

Let W = Winding time in minutes.
L = Length of yarn in yards.
R = Speed of reel in rpm.
Y = Circumference of reel in yards.

In one revolution of the swift, Y yards will be wound.

At R speed, RY yards per minute will be wound.

If L yards have to be wound, it will take $\frac{L}{RY}$ minutes or $W = \frac{L}{RY}$.

As the circumference of a reel is usually given in inches, the above equation becomes $W = \frac{36\ L}{RY}$ when Y is in inches. (4)

Graphic Solution of Winding Time

Equation (4) is plotted in Fig. 3 and an example is shown in dashed lines. Assume that 1000 yard skeins of 72-inch circumference are to be reeled at a speed of 100 rpm, and it is desired to know the winding time. Find the yardage on the left hand margin; follow the horizontal line to the proper diagonal for the speed; turn at right angles at the intersection and follow the vertical line to the proper diagonal for the circumference; again turn at right angles and read the winding time of five minutes on the right hand margin.

Simple Count Formula

The count of a cotton yarn is the number of hanks of 840 yards, each, required for one pound.

Let C = Numerical count of yarn.
L = Length of skein in yards.
S = Weight of skein in ounces.

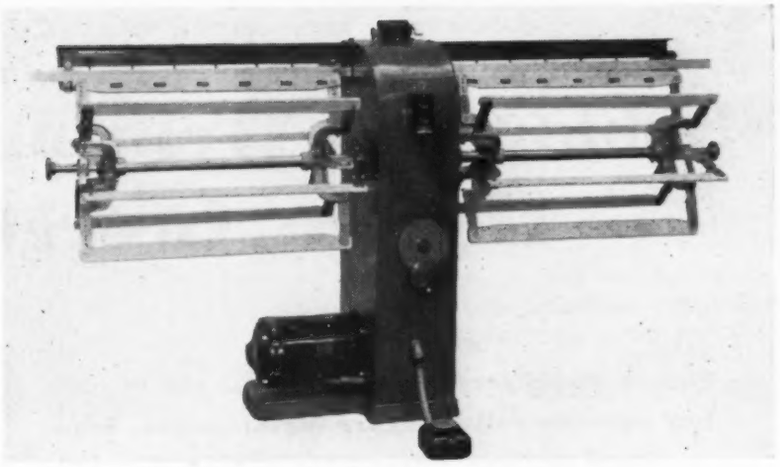
Then $C = \frac{L \times 16}{S \times 840}$, or

$$C = \frac{2\,L}{105\,S} \qquad (5)$$

Equation (5) is also plotted in Fig. 3 and an example is shown in dashed lines. If eight ounces of 20s yarn is to be reeled and the length of skein is unknown; find the count in the bobbin margin; follow the vertical line to the diagonal for eight ounces; then turn at right angles and read the yardage of 8400 in the left margin.

Production Comparison

When comparison is made of production from two different types of skein reelers, it must be remembered that there is a great difference in production by operators. It has been observed that some operators will produce as much as 50% more yarn than others—under the same circumstances and with the same machines. It is also true that different types of leasing knots are tied in different mills, and so leasing time may vary from mill to mill. Therefore, comparison of machines can be made only by comparing production using the same operator.



Fidelity six-skein double-end reeling machine.

North Carolina Cotton Manufacturers Meeting

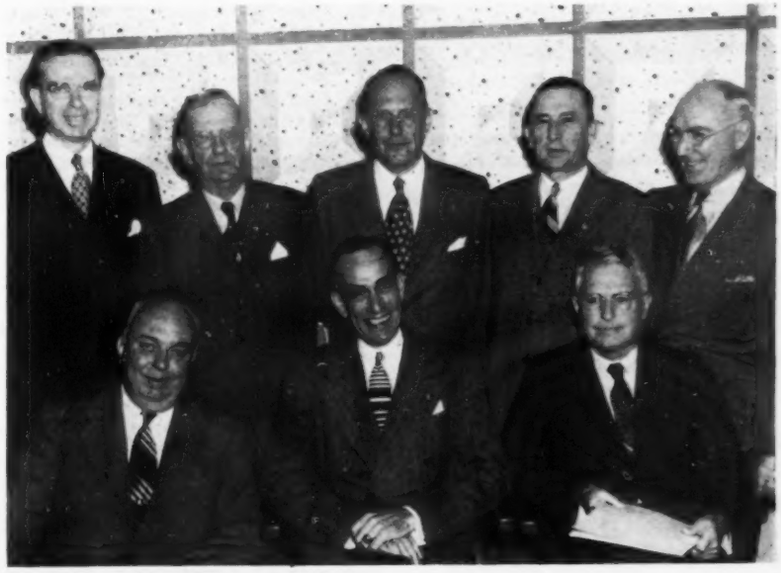
NORTH Carolina Cotton Manufacturers, meeting at Asheville, N. C., October 9-10, went on record as opposing the setting up of any permanent cotton bale number identification regulation by the government. The proposed tags would be made of metal and would be placed inside the bale, necessitating extra expense for tags and clerical help, with minor value received, according to the resolution.

Members of the North Carolina Cotton Manufacturers Association elected Hearne Swink of Cannon Mills as president for the ensuing year, succeeding R. Dave Hall of Belmont. Other officers elected were: first vice-president, Karl Bishopric of Spray Cotton Mills; second vice-president, F. C. Williams, Patterson Mills Co.; and Hunter Marshall of Charlotte, secretary-treasurer, re-elected.

Speakers for the occasion were Governor Gregg Cherry; Forrest H. Shuford of the Department of Labor; T. A. Wilson of the North Carolina Industrial Commission; Col. Henry E. Kendall of the Employment Service Commission; and Victor S. Bryant of Durham.

A resolution was adopted petitioning all necessary departments of the government to take whatever steps are required to maintain an export market for raw and processed cotton, and to protect the home market from importation of foreign goods which would destroy American industry.

Attending the N. C. Cotton Manufacturers Association meeting in Asheville. Standing, left to right: Sam M. Butler, Harvey W. Moore, Julian Robertson, Caldwell Ragan, and C. A. Cannon.
Seated, left to right: Frank C. Williams, Hearne Swink (president), and Karl Bishopric.



Slashing and Weaving Forum Held by Georgia Executives

Starch stabilizers, slasher drives, use of rubber squeeze rolls, slasher maintenance, loom overhaul systems, prevention of jerked-in filling among those subjects discussed.

Staff Report

EQUIPMENT, materials, and procedures used in slashing and weaving operations were freely and openly discussed by textile operating executives from Georgia, Alabama, and South Carolina during the fall meeting of the Textile Operating Executives of Georgia, held at Georgia Tech in Atlanta on September 27th.

In accordance with past custom, questions to invoke thoughts and assist in leading the discussion had been prepared by the executive committee well in advance of the meeting date and had been submitted to members of the association for study, with the request that answers be submitted prior to the meeting in order that compilation might be made and results published in booklet form. Answers were received from mills and mill groups operating 1,182,204 spindles and 27,050 looms.

Vice-General Chairman R. P. Hardeman presided over the meeting in the absence of General Chairman J. L. Jennings. That phase of the forum pertaining to slashing was led by B. W. Whorton, superintendent of The Dixie Cotton Mills of LaGrange. H. M. Jackson of Fulton Bag & Cotton Mills in Atlanta conducted the discussion on weaving.

The following report is based on discussion at the meeting and the printed report of answers received by mail before the meeting.

Experience of the group with the use of starch stabilizers in size mixes was apparently limited, with only one mill reporting results of a test conducted in an effort to prove the value of this additive. The following test was made in the laboratory:

One mix was made without a stabilizer and another was prepared utilizing 2% starch stabilizer (based on dry starch content). Both mixes were cooked for two hours with continuous stirring at a temperature of 211°F. When cooking was completed, the viscosity of both mixes was determined. They were then allowed to stand over night, after which they were again heated to 211°F., held at this temperature for 10 minutes, and another viscosity determination made. The mix without the stabilizer was lumpy, even after considerable stirring. The mix containing the stabilizer, though it was solid after standing over night, did stir into a smooth mix; however, the viscosity was somewhat higher than when the mix was originally cooked.

Storage of Size

A question regarding the maximum time that size is held in storage brought forth varied opinions, ranging anywhere from 30 minutes to 48 hours. The majority of the mills reporting recommended that size be held not more than eight hours. Eleven out of 18 mills indicated that size is agitated while it is in storage. Paddle speeds ranged from 20 to 100 rpm, the average being 36 rpm. The other seven mills do not agitate size while it is in storage. The average temperature at which the size is held in storage was reported to be 192°F.

Variable Speed Slasher Drives

Advantages cited for variable speed drives on slashers included: (1) Better tension control; (2) Ability to control moisture content of yarn if connected with moisture control units; (3) Less mechanical trouble; (4) Elimination of friction clutch; (5) Increased production; (6) Flexibility (In changing from one style to another, wider range of speeds is available); (7) Slasher can be stopped and started without kinking ends in creel.

Eighteen mills reported experience with these drives. The Link Belt PIV, Westinghouse multimotor, and Reeves units were discussed.

Concluding the discussion on variable speed drives, a representative asked if anyone had used a

ELECTION OF OFFICERS

R. P. (Rip) Hardeman, The Trion Company, Trion, Ga., was elected general chairman of the Textile Operating Executives of Georgia at the fall meeting of the association in Atlanta, having formerly served as vice-general chairman. J. C. Edwards, Jr., Exposition Cotton Mills Co., Atlanta, Ga., was elevated from the executive committee to vice-general chairman.

Other officers elected were Robert W. Philip, Callaway Mills, LaGrange, Ga., as secretary-treasurer, re-elected, and R. J. McCamy, Pepperell Manufacturing Company, Lindale, Ga., as a member of the executive committee for a period of two and one-half years, filling the vacancy created by the elevation of Mr. Edwards to vice-general chairman.

variable speed drive on a Johnson type rayon slasher. It was reported that such a drive has been applied at a rayon mill, but as yet the advantages of this arrangement have not been determined.

Recommended Stretch

It was the consensus that 1.5% stretch in yarn at the slasher provides best operating conditions. Answers varied from zero to approximately 6%. For complete tabulation of answers received in reply to this question, see the accompanying Table 1.

Commenting on this question, a superintendent explained that it is important to know just how stretch is determined in order to properly evaluate test results. Yardage counters on both the back and front of the slasher are used to determine the amount of stretch in the yarn. The speaker said that they have found that the amount of stretch possible is partly controlled by how well the yarn is split at the split rods, and further, that the moisture content of the yarn is partly controlled by the stretch factor. Care should be exercised in matching yardage counters to avoid misleading stretch calculations.

A show of hands during the meeting indicated that about 50% of the mills represented check the stretch on the slasher by using yardage counters on section beams and loom beams.

This discussion was concluded by a question as to why 1.5% stretch is used since it is apparent that stretch in yarn at the slasher has an effect on the end breakage at the loom. It was explained that it is not possible to split the yarn without stretch.

R. P. (Rip) Hardeman of The Trion Co., Trion, Ga., was elected general chairman of the Textile Operating Executives of Georgia.

A visitor from Alabama contributed to this discussion by advising that results of tests conducted at the Southern Research Institute indicate that end breaks on the loom are proportional to the amount of stretch in the yarn.

Rubber or Synthetic Squeeze Rolls

Considerable interest was displayed in connection with the question regarding experience with synthetic or rubber covered slasher squeeze rolls. Specific information requested was: (1) Is it necessary to have different types for the front and back rolls? (2) Is it necessary to make any change in the size mix? (3) Is there any difference in the amount of size applied? (4) Give buffing procedure, as to method and frequency.

Mill No. 1: From our experience with rubber squeeze rolls, which are of the recent type, we find that they cannot be used except on the back roll. If used on the front, there is too much size left in the yarn. We use on the front a plain roll covered with a wool blanket. It is not necessary to change the size mix if rolls are used in this way. We have been using them 15 months, and have not had them buffed. We do not know how long they will run before buffing is necessary.

Mill No. 2: We use synthetic covering on the back roll on all of our slashers, but have not yet found a satisfactory synthetic cover for the front roll. We did not make any change in our size mix and have noted no difference in amount of size applied. We have had one synthetic roll in operation for about three years and have not yet found it necessary to have this roll buffed.

Mill No. 3: We use synthetic squeeze rolls. Weight of front roll is 575 lbs. and back roll weighs 450 lbs. We were able to use a lighter size mix with these rolls. We get a more uniformly sized warp with these rolls. Rolls are buffed in our machine shop by placing in lathes and using fine emery wheel. It is necessary to buff them after approximately 6 to 8 months. (When asked about the type of yarn processed on these rolls, the representative of this mill explained that they run everything—2000-4500 ends, 12s-24s yarn, 20s viscose and acetate spun rayon.)

Mill No. 4: We have been ex-

TABLE 1

Mill No.	Yarn No.	Twist Factor	No. Ends	Slasher Speed	% Size	% Moisture	% Stretch
1.	7.5s to 20s	T.M. 4 to 4.75	224 to 1500	———	3 to 12	7.5	1.5
2.	14s to 16s	———	420 to 3000	32 to 50 YPM	4 to 10	6	1
3.	16s	18 tpi	552 to 1348	60 to 65 YPM	3.55	6 to 7.5	5.48 break
4.	14s to 24s	T.M. 4.8	2200 avg.	45 to 70 YPM	12.5	———	1.5
5.	30s to 40s	26 to 31 tpi	486 to 3400	40 to 75 YPM	3 to 12	6 to 8	1.5 to 2
6.	4.5s to 20s	———	1300 to 6000	15 to 60 YPM	9 to 10	7.5	1.5
7.	21s to 30s	T.M. 4.75	2500 to 4000	35 to 65 YPM	10 to 11	6 to 7	1.5 to 2
9.	12s	16 tpi	1080	45 YPM	9	7	2
12.	13s to 23s	T.M. 4.75 to 4.90	1950-5800	40 YPM	12	6.5	1.5
13.	9s	T.M. 4.75	1400-2600	20 to 30 YPM	12	6	1.5
14.	16s and 30s	T.M. 4.6 and 4.75	1900-2350	50 to 65 YPM	8	8	Not over 5%
16.	12s to 20s	T.M. 4.75	2000-4500	15 to 30 YPM	10 to 12½	7	1.5
18.	14s to 32s	T.M. 4.75	3000	40 YPM	10	5	1.5
19.	8s	13.5 tpi	1000	60 YPM	10	8	2
20.	10s	T.M. 4.75	3600	———	12	6.5	2
22.	12s	T.M. 4.75	2300 to 5200	45 YPM	———	———	1
24.	22s	T.M. 4.60	2692	60 YPM	12	6.5	1.5 to 2.5

perimenting with four synthetic squeeze rolls of the recent type weighing 700 lbs. We use the same roll on the front and back and do not make any change in the size mix. However, we do get an increase of ½% to ¾% in size content.

We buff our rolls only as we think it is necessary. One of the points to watch with rubber or synthetic rolls is to be sure that they are raised completely off the immersion rolls when not in use. If you let the roll stay down during a shift, it will flatten the synthetic roll and make it necessary to rebuff it. If you do not rebuff, it will crack. We do our buffing with a grinder on a lathe in the machine shop.

Mill No. 5: We use rubber covered squeeze rolls, weighing 700 lbs. on the front and 450 lbs. on the back. No change was made in our size mix. Rolls have been used for 18 months and no buffing has been required. We process 9s to 38s yarn.

One of our slashers was equipped three months ago with an exactor roll. Weight of roll is 271 lbs. We are using 40 lbs. pressure on each end of this roll. (Note: It is understood that the equipment referred to here is a pneumatic loading system for slashers. See also page 146 October 1947 TEXTILE INDUSTRIES.) We hope to determine just how much pressure is required on each roll by conducting tests on each number of yarn that we process and also the various number of ends per beam.

Mill No. 6: We have tried rubber squeeze rolls, but had a lot of trouble with them. When the rolls got hot, they became soft and consequently would not squeeze out the size and dress the warp properly.

Mill No. 7: We have two rubber squeeze rolls. One has been running a year and the other only a few months. We are running them on colored yarn and have not been able to use them as finishing rolls due to the greying of the yarn, but they work fine on the back. We are planning to experiment with a different type rubber for the finishing roll. We have not attempted to change our size mix. There is no difference in the amount of size applied when rubber roll is used on the back. We have not buffed any rolls to date.

In response to a question as to whether or not anyone had experienced difficulty with these rolls grooving, a representative of a rayon weaving mill reported that he had been troubled with the rolls pitting and had found that this was due to a reaction of that particular type of rubber with the size mix. He changed to another type of rubber and his trouble disappeared.

TABLE 2
SLASHER ROOM INSPECTION FORM

Creels:	Cone Hangers
	Selvage Guides
	Bolts and Washers
	Section Beam Stands
	Starting Levers
Size Boxes:	Lever Controls
	Guide Rolls
	Size Box
	Bottom Squeeze Rolls and Bearings
	Roll Lifting Device
	Top Squeeze Rolls
	Yarn Winding Mechanism
	Cut Mark Mechanism
Side Shaft:	Gearing to Size Box
	Gearing to Delivery Rolls
	Gearing to Cylinders (Rtch)
Cylinders:	Small Back Cylinder
	Large Back Cylinder
	Large Front Cylinder
Misc.:	Cone Shafting
	Fan
	Frictions
	Delivery Roll
	Drag Roll
	Press Rolls and Levers
	Rib Rolls
	Contact Rolls
	Pipes and Valves
	Mixing Kettles
	Storage Kettles
	Recording Instruments
	Overhead Shafting
	Motors
	Overhead Tracks and Switches
	Trolleys
	Electric Hoists and Chains
	Electric Lights and Switches

Preventive Slasher Maintenance

Various systems were described for maintaining slashers. Some plants have fixers; others rely on the foreman of the slasher room to make periodical inspections and report major defects to machine shop for repair. At one plant, a check sheet (See Table 2) is provided for fixers, and each slasher is checked every month. When defective parts have been replaced, they are checked off, and the sheet is turned in to the overseer. The fixer does all of the greasing and oiling except for the plain bearings that require oiling every eight hours. These bearings are oiled by tenders.

TABLE 3
OILING SCHEDULE

Part	Cycle
Cylinder Bearing	1x72 hrs.
Size Box Bearing	1x24 hrs.
Press Roll Bearing	1x24 hrs.
Creel Bearing	Each set
Fan Bearing	1x8 hrs.
Carrier Roll Bearing	1x8 hrs.
Drag Roll Bearing	1x8 hrs.
Friction Bearing	1x8 hrs.
Side Shaft Bearing	1x8 hrs.
Measuring Roll Br.	1x8 hrs.
Traverse Roll Br.	1x8 hrs.
Friction	1x144 hrs.
Reeves Drive	1x24 hrs.
Kettles	
Pump Bearing	1x8 hrs.
Kettle Bearing	1x8 hrs.
Pump Bearings, oiled	1x8 hrs.

The slashing overseer at another mill checks each slasher every week-end, making notes of major defects and correcting minor defects on the spot. Major defects are generally handled by the machine shop. Each slasher tender is responsible for oiling his slasher. See oiling schedule given in Table 3.

Loss in Sizing Materials

The loss in sizing materials based on actual pounds used during a given period as compared to the gain in weight at the slasher, taking into consideration the yarn waste, created some discussion; however, no decision was reached as to the reason for the loss. In this connection the following information was given by one mill man:

We have made drying tests on our starch and compounds at 218°F. for 5 hours and find an average of 11.75% moisture in our starch and 5.5% in our compounds. In the proportions in which we use these items, we have an average of 11.00% moisture in sizing materials. Our tests also show that our warp yarn gains approximately 1.25% moisture during the sizing operation. Our moisture after slashing is 7.25%. We weigh all of our section beams, sized warps, and waste. We also keep records

of all sizing materials used. We find that for a period we have a loss of 18% in our sizing materials. This figure seems high to us since we can only account for 3.75% loss due to moisture, and 1% loss due to week-end dumping. We would like suggestions as to ways to reduce this item.

One man estimated that the loss in sizing materials runs 20-21%; however, he did not have an explanation for this. Other answers received ranged from 10% to 40% loss.

B. W. Whorton of Dixie Cotton Mills, LaGrange, Ga., led the slashing discussion.

Slasher Waste

The slashing portion of the meeting was concluded with a discussion of systems for controlling yarn waste in the slasher room and the normal percentage of hard and soft thread waste at the slasher. Several systems for the control of waste were offered. Following are representative examples of those given.

Mill No. 1: Section beams are measured accurately at warpers. When a set is run out, the beam is not doffed from slasher until a new set is tied on. The beam is then doffed, as close to "tie on" as possible. When a set is being changed, the steam supply to the slasher is cut off.

Mill No. 2: A record is kept of the amount of waste that each slasher tender makes, and he is advised accordingly if his waste is excessive.

Mill No. 3: Each foreman is responsible for the waste made on his shift. The waste is weighed at the end of each shift before it is taken to the waste house. Also at the end of each week the overseer gets a report of the waste made in his department.

Mill No. 4: Weighs waste at end of each 8-hour shift. Each slasher has a special box for its waste, and a record is kept for each tender.

Mill No. 5: Weighs all waste from each set slashed. Waste made by each tender is posted daily, and in cases where excessive waste is made, the matter is handled with tenders and the warping department.

Mill No. 6: A double check is made at warpers by having each warper tender check the yardage clocks on the adjacent machine.

Mill No. 7: (a) Tries to keep slasher room personnel interested in matter of waste; (b) Creels are run as far down as possible. When broken ends show up back of size box, the yarn is marked. Slasher is run until this mark reaches front. The yarn is then taped on the beam; (c) Keeps warps in lease for both quality and prevention of breakouts; (d) Gives careful attention to setting of combs when changing to beams of other widths on same styles.

Mill No. 8: Keeps record of waste. Creels are leveled and lined periodically, and beam journals are checked to give smooth running beams in the creel. On chain-dyed warps each warp is measured at the beamer frame and an attempt is made to group long beams together and short beams together.

It was generally agreed that the total soft and hard waste at the slasher would average between .5% and 1%. Figures for soft waste ranged from .2% to .4%. Hard waste figures ranged from .02% to .6%.

Handling Large Loom Beams

The discussion on weaving was started with a question regarding the manner in which overhead loom beams are supported. A representative of one plant reported their experience as follows:

We have six looms equipped with loom beams that are 48 inches in diameter. These beams are mounted on stands over the loom. We have had no trouble with the let-off so far and do not believe that the weaver's or fixer's jobs would be changed by using this arrangement.

Some of the advantages of this arrangement are listed below:

(1) Larger beams can be used without occupying more floor space.
(2) Fixer can get to parts under loom much easier.
(3) Easier to oil.
(4) Can oil and blow off without danger of getting oil on warp.
(5) Easier to keep clean under looms.

Disadvantages are:

(1) Cost of installation.
(2) Lighting will have to be rearranged in room.
(3) Slightly more trouble for weaver when extra end comes up on beam.

This same man further explained that they had the beam heads made; the let-off is of the Draper-Roper type; beam follower is mounted on arch in front of loom; it was necessary to change leverage between beam lever and let off; the beam runs for 7 months; there is no difference in quality of product produced.

Another member reported that they have been experimenting with a loom beam 26 inches in diameter mounted on a stand over the loom. They have had no trouble with let-off. The weavers liked it. Production was slightly better and fixers were pleased with the installation. The chief disadvantage cited was that it is necessary to have a hoist arrangement to place the beams on the loom stand.

In answer to a question, it was stated that no trouble had been experienced with looms becoming overbalanced.

A comparison of the maintenance cost of mechanical and electrical stop motions brought forth

an answer to the effect that more maintenance is necessary on mechanical stop motions. It was explained that the electrician does the bulk of work on electrical stop motions. The speaker preferred the individual power supply for each electrical stop motion rather than group supply because it was said that stoppage of a generator could cause failure of all stop motions in the circuit when the stop motions operate on one generator.

Another mill reported changing over from mechanical to electrical stop motions. The representative of this mill stated that no fires had been experienced, and that the new installations were easier to maintain and keep clean.

Reporting for another plant, the man said that he favored the electrical stop motion. His records showed that 2% of the loom fixer's time was spent on the sliding bar type stop motion, 5% of his time was necessary on the comber type stop motion, and practically none was spent on the electrical type.

A statement pointed out that stop motions require 2 cents per million picks for repairs. (No comparative data was offered for different kinds of stop motions.)

Procedure, Frequency, and Extent of Loom Overhauling

In answer to an inquiry concerning improved method of preventive maintenance and loom overhauling, a Georgia man reported overhauling 18 looms at one time. The looms are removed from the weave room and are placed in the overhaul shop and are replaced by looms which were overhauled previously.

J. C. Edwards, Jr., of Exposition Cotton Mills, Atlanta, Ga., newly elected vice-general chairman.

One other mill reported using a group of promising weavers to do the overhauling under the supervision of an experienced loom fixer. They overhaul three or four looms at a time.

It was indicated by one man that their program of loom overhauling excluded looms that were making good cloth. In their plant, a loom must make six defective rolls of cloth before it is scheduled for overhaul.

One speaker stated that his plant overhauled each loom once a year. Two overhaulers work 8 hours each day on the looms. The following points are checked in their overhaul shop:

(1) Check race plate, line loom.
(2) Check pickers and binders.
(3) Check parallel blocks and feet.
(4) Check protecting rods.
(5) Check pick cams and pick levers.
(6) Check let-off and take-up motions.
(7) Check sand roller.
(8) Check head gears and friction.
(9) Check frog rubbers.

After these points are checked, the secondhand checks the loom and releases it for production.

Conditioning Filling

One mill reported conditioning all filling from 5s to 26s. No specified time was allowed for the conditioning process, however the usual procedure required 2 or 3 hours. This mill reported no trouble due to yarn sloughing-off. The filling is sent to the weave room just before shutting down for the week-end, the batteries are allowed to run out, and the supply of filling is replenished Sunday night before the start-up.

One speaker indicated that his plant did not condition filling, that no time was specified in which to use the filling, and that no excessive sloughing-off was experienced.

Selvages Rolling

It was revealed that one mill is experimenting with cones on the slasher in an effort to remedy the trouble experienced with ends rolling at the selvage on the loom. Another mill offered the explanation that selvage ends rolling was caused by failure to keep the beam heads straight, and the tying-in man not dressing the pattern properly.

Table No. 4 is a tabulation of the moisture conditions maintained in the weave rooms of various mills represented at the meeting. This table was prepared from the answers given to the question regarding the most desirable relative humidity and temperature conditions for cotton weaving.

The following list is a compilation of suggestions secured from answers given as to the best meth-

TABLE 4

TABULATION OF WEAVE ROOM HUMIDITY

Fabric	Degrees Fahrenheit Temperature	Percent Relative-Humidity
Terry	82	70-75
Ticking	82	80-85
Gauze	80	75
Twills and Sateens	80	80-85
	80	87
	90	85-90
6 and 7 Oz., 2 Harness	84	82
11s to 14s Yarn	80	60
18 to 48 Ounce Hose and Duck	82	80-84
Sheetings	80-82	80-82
Heavy Yarns	80	80-85
Plain Goods	80-85	80-85
Plains, Twills and Sateens	85	85
Coarse Goods	80	82
Drills, Twills and Sheeting	80-85	85
Suitings	80	78
Duck	75-80	71
Fine Goods	82	82

od of preventing looms from breaking filling, with particular reference to the shuttle and package:

(1) Be sure that the package is not too large for the shuttle.
(2) When using bristles, they should be placed at a 45 degree angle and should contact the top and bottom surfaces of the filling about ½ inch behind tip of quill.
(3) Care should be taken to see that equal tension is placed on top and bottom.
(4) Fur can be used on the sides to reduce sloughing.
(5) Keep the give-way fingers and transfer hammer of magazine in proper adjustment.
(6) Keep good grooves in the shuttle and the eyes and springs clean and tight.
(7) Keep size of package at least 1/16 inch smaller than shuttle.
(8) Keep close check on lay and taper of bobbin of yarn.
(9) Have quill lined vertically and horizontally with tunnel in shuttle eye.
(10) Use as little power on the picker stick as possible.
(11) Have pickers parallel.
(12) Keep shuttle spring straight so that bobbin will stay in middle of the shuttle.

Jerked-in Filling

The concluding question was related to preventing jerked-in filling on C&K, W3 drop-box looms and Draper looms. The answers given in the printed report of correspondence on the subject are given in condensed form as follows:

(1) Have pick motion set and timed properly.
(2) Keep good groove and bristle in shuttle.
(3) Have meter cam set correctly to check shuttle in box end to prevent having binder too tight.
(4) Wrap mouthpiece with flannel or slasher cloth to hold filling while shuttles are not running.
(5) On Draper looms always put screw in back of picker to prevent jerked-in filling.
(6) Quill cans should be kept as nearly empty as possible so that the quill will fall low and thus take the end away from the shuttle.
(7) Check Stafford thread cutters, temples, and temple knives for proper operation.
(8) See that shuttle is boxing properly.
(9) Boxes should be free from burrs, and scuffed or rough leather.
(10) Keep good pickers and picker sticks on loom.
(11) Keep the lay smooth.
(12) Bolts should be kept tight in lay plate end.
(13) Be sure shuttle feeler is cutting the filling before the empty quill starts out of the shuttle.

[*See page* 135, *this issue for article entitled "Jerked-in Filling Prevented on Box Looms."*

Carding-Spinning Practices

Described at Alabama Meeting

Preventing lap-ups on continuous strippers, reducing neps, study of reworkable waste. Information on B-C spoolers, spindle adapters, centralized maintenance program successful.

Staff Report

ALABAMA Textile Operating Executives, meeting in Montgomery on October 11, held an open forum discussion on carding and spinning subjects. A. D. (Jack) Elliott of Huntsville Mfg. Co., general chairman, presided. The discussions on carding and spinning spinning were led by A. H. Randall of Alabama Mills and Wilson Patterson of Tallassee Mills, respectively.

Hugh M. Comer, president of Avondale Mills, was the guest speaker for the occasion.

Experience with continuous strippers, according to those reporting, has been satisfactory. Several points were brought out that should prove of interest to other plants:

(1) Trouble has been encountered with lap-ups on needle bars when the surface speed of the stripper is permitted to become too low as compared with the surface speed of the cylinder. Keep stripper speeds up to recommended speeds and reduce belt slippage to the minimum.

(2) Occasionally lap-ups have occurred on long staple cotton. Run strippers faster for long staple, or it will be necessary to stop cards and clean chokes.

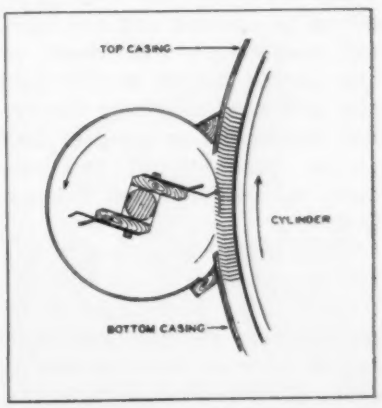
(3) Excess oiling, of bearings and getting oil on the laps will cause lap-ups.

Mills equipped with continuous strippers were asked to give stripping and grinding cycles; these are as follows:

Mill No. 1. Cylinder ground every 480 hours; strip doffers every 24 hours; strip cylinders weekly.

Mill No. 2. Cylinder ground ev-

The Saco-Lowell continuous stripper.



INFORMATION ON BARBER-COLMAN SPOOLERS

	Counts of Yarn	RPM Drum	Knots per Minute	Cycle of Knotter	Per Cent Tailing	Yards on Bobbin	Yards on Cheese	Basis of Payment	Build	Cleaning Schedule
Mill No. 1	8s	1200	85	2.80	35	2117	16,000	Per Trident (15 Cheeses)	Warp and Combination	Spooler—Twice per Day Knotter—Four Times per Day
Mill No. 2	4.5s	975	80	3.7	20	....	.....	Per Trident	Combination	Once Every 8 Hours
	9.5s	1270	80	3.7	18	....	.....	Per Trident	Combination	Once Every 8 Hours
	9.5s	1175	80	3.7	18	....	.....	Per Trident	Combination	Once Every 8 Hours
	13.25s	1270	80	3.7	15	....	.....	Per Trident	Combination	Once Every 8 Hours
	17s	1570	80	4.05	18	....	.....	Per Trident	Combination	Once Every 8 Hours
Mill No. 3	4.5s	1200	75	4.14	15	2126	7800	Per Trident	Warp	Twice Each Shift
	7s	1200	75	4.14	15	2940	11,760	Per Trident	Warp	Twice Each Shift
	8.75s	1200	75	4.14	15	3675	15,000	Per Trident	Warp	Twice Each Shift
	10s	1680	75	4.14	15	3675	17,400	Per Trident	Warp	Twice Each Shift
	12s	1675	87	3.50	15	4410	20,160	Per Trident	Warp	Twice Each Shift
	13.5s	1680	75	4.34	15	4961	22,680	Per Trident	Warp	Twice Each Shift
	15s	1550	90	3.48	15	2756	25,200	Per Trident	Warp	Twice Each Shift
	20s	1680	87	3.47	15	3675	33,600	Per Trident	Warp	Twice Each Shift
Mill No. 4	12.25s to 32s	1580	80	3.47	15-25	3000-6300	24,000-61,000	Per Cheese	Warp and Combination	Every 4 Hours
Mill No. 5	8s	1230	67	4.65	4	4032	13,440	Per Hour	Combination	Automatic (Ducts)
	10.5s	1230	68	4.58	4	3969	17,640	Per Hour	Combination	Automatic (Ducts)
	13.5s	1325	80	3.87	4	3561	22 680	Per Hour	Combination	Automatic (Ducts)
	15s	1325	75	4.13	4	3830	25,200	Per Hour	Combination	Automatic (Ducts)
Mill No. 6	7.5s	1600 & 1750	80	3.3-3.8	..	1850-4575	15,750-63,000	Per Trident	Warp	Once Each Week

ery 450 hours; strip doffers and cylinders every 8 hours.

Mill No. 3. Cylinders and doffers ground every 120 hours; strip three times each 8-hour shift with air; strip twice each 40-hour shift with stripping roller.

Mill No. 4. Cylinders ground every 384 hours; doffer stripped every 24 hours, and cylinder is stripped every 360 hours.

Breaking strength was said in one instance to have been improved since installation of the continuous stripper; other reports indicated no difference in breaking strength, with and without the continuous strippers.

[Also see TEXTILE INDUSTRIES, 1946, Dec. p. 79; 1947 Sept. p. 121.]

Reducing Neps

One mill reported reducing the nep count when lowering production in carding from 17 to 15 pounds per hour. Other ways reported to reduce neps were to use settings in opening and picking so that smaller tufts were made, reduce picker beater to 600 rpm, open grid bars, eliminate the vertical opener, never go over 50% relative humidity in the card room, replace card and licker-in fillet.

In one test it was found that on cards equipped with conventional stripping, the percentage of increase in neps was 32% from stripping to stripping, whereas this increase was only 16% on cards having the continuous stripper.

[Also see TEXTILE INDUSTRIES, 1946, Mch. p. 72; 1947, May p. 129, July p. 125 and 128, Aug. p. 131, Oct. p. 209.]

Reworkable Card Waste

Percentages of reworkable card waste were given. One mill has 1.25% lap waste per card, .21% front waste, with the waste per drawing delivery for creeling and piecing-up being .12%. This plant has discovered no way to prevent the gradual increase of waste following a concentrated drive to reduce it.

Another plant advised that its lap waste was 8%, front waste 5%, but offered no system for keeping up with waste by jobs.

One other plant reported the lap waste per card at 2.25%, the front waste at .75%, and the overall drawing waste as one per cent. This plant keeps up with waste by jobs, numbering the box with job numbers for lap waste and numbering cans for the front and sliver waste. Boxes are weighed during the last half-hour of each shift, and a record is kept.

[Also see TEXTILE INDUSTRIES, 1946, Apr. p. 136, Dec. p. 105, Nov. p. 47; 1947, June p. 77 and 79]

Slow or Fast Grinding

Considerable difference of opinion was expressed on grinding at slow and fast speeds of the doffer. Some mills grind the doffer with the stock in the card, having found no difference in that and when the stock is out. This eliminates loss of production while grinding.

No conclusions could be drawn from the discussion on common or metallic rolls for drawing, as the opinions expressed varied. It was brought out that metallic rolls give a more positive grip on the stock when a heavy grain sliver is being run.

[Also see TEXTILE INDUSTRIES, 1946, June p. 146, Jan. p. 150; 1947, Apr. p. 119.]

Standard efficiency on Barber-Colman spoolers was under discussion. Figures offered by several mills are shown in the accompanying tables.

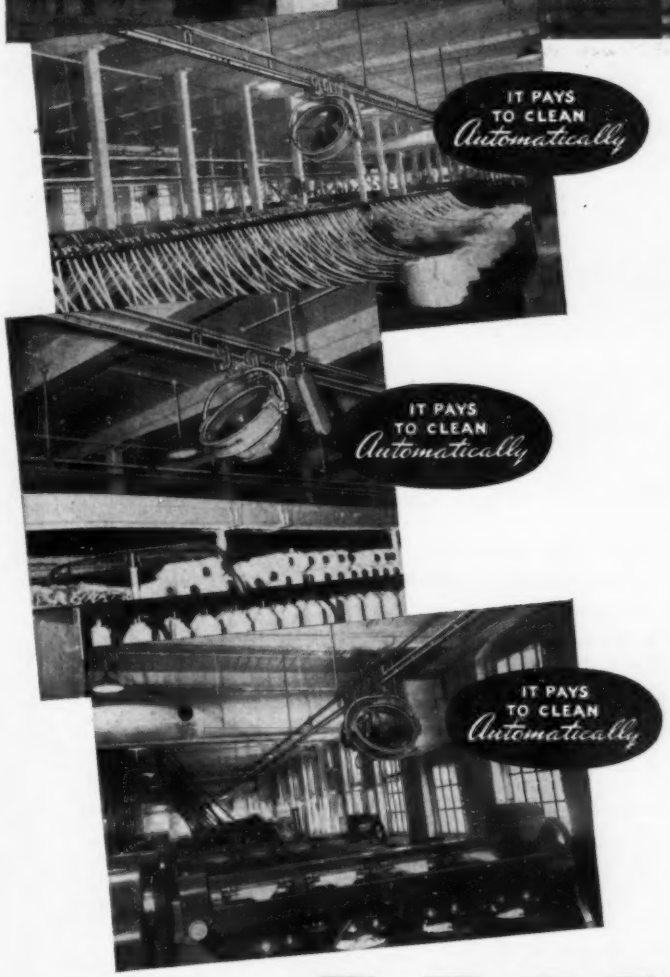
Air Conditioning in Spinning

Mills having air conditioning and air changing systems in spinning reported favorably on the installations, mainly because desired conditions can be maintained. Housekeeping was said to be more difficult in that additional cleaning was necessary, but even on this point there was disagreement.

Spindle Adapters and Paper Bobbins

The following is a brief of the opinions offered on the various types of spindle adapters to be used with paper bobbins:

Mill No. 1. We are experimenting with several different types. At present, the roller bearing type



Mops, brooms and air hoses are out as far as ceiling cleaning is concerned. High labor cost and lost production during time down make these tools obsolete. In one mill these costs amounted to approximately $1.50 per hour—the cost of installing automatic ceiling cleaning was absorbed by savings in less than a year.

Automatic cleaning is installed on overhead monorail track. A high-velocity propeller type fan unit travels around a loop of monorail track and sends a blast of air against the ceiling preventing any accumulation of lint or fly.

Fans may be adjusted to reach any spot in the room. Automatic ceiling cleaners are no longer an experiment. They are being installed in many mills. Let an American MonoRail engineer give you complete details.

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appears to meet our conditions better. We had had trouble with the wooden sleeve spindle using the tapered tube. Our preference is for the straight side paper bobbin with the metal adapter, or the roller bearing spindle.

Mill No. 2. We tried the metal adapter on our old spindles, on one frame, using a straight paper bobbin, and we get as good running work as with the wooden bobbin on our regular spindle. We also tried the wood sleeve spindle, using both tapered and straight paper bobbin; the straight bobbin gave satisfactory results.

Mill No. 3. We are running a few wooden sleeve spindles at 8700 rpm, spinning 13¼s yarn on a 2½" ring with an 8½" traverse. We are experimenting with a tapered paper tube; the chief difficulty we have encountered with this type is the tendency for the tubes to jump up on the spindle.

The chairman asked if anyone had tried any of the various types of spindle adapters with paper tubes and discarded them because they were unsatisfactory. No one reported having done so.

Centralized Maintenance

The centralized maintenance program, comparatively new in the textile industry, was a topic on the agenda. Few mills reported having experience, but those using the system said that it gives better maintenance of machinery and the opportunity to concentrate on a specific problem, such as improved lubrication methods. Mills that use the system are thoroughly satisfied with it—those not having installed the program demonstrated genuine interest.

A prerequisite of the centralized maintenance program, according to one speaker, is cooperative management. Also, the maintenance department must consider itself a service department; in this respect, it is essential to have excellent maintenance supervisors. The man reporting said that when the maintenance department finishes work on a machine, the overseer of the department must check the machine and be satisfied with the work done.

[Also see TEXTILE INDUSTRIES, 1946, "Preventive Maintenance Program at Dan River Mills," 5 parts, Apr., May, June, July, Sept. (limited number of reprints available); other discussion. Sept. p. 84, Oct. p. 189.]

Little discussion took place on prevention of eyebrows. The only opinion offered was that revolving top clearers were helpful in reducing them.

Mills having installations of Numo automatic spinning control reported satisfaction with the device.

Reports were favorable for the Pneumafil system of pneumatic broken end collecting on spinning.

[Also see TEXTILE INDUSTRIES, 1947, Numo, July p. 80; Pneumafill, May p. 88.]

An innovation at this meeting was the selection of the "salesman of the year," voting being done by other salesmen attending the meeting. J. K. Davis of Victor Ring Traveler Co., won the award.

Device Tests Wrinkle Resistance

A unique device which permits the accurate determination of wrinkle resistance in woven fabrics was described recently by Dr.

D. H. Powers of Monsanto Chemical Company. Called the wrinkle recovery tester, and developed by Dr. R. F. Nickerson, also of Monsanto, the device is said to open up opportunities for new fabric construction by providing more accurate measurement data on wrinkling characteristics of woolens, worsteds, cottons, and rayons.

The establishment of a set of industry standards by which consumers would clearly know the amount of wrinkle resistance contained in wearing apparel was suggested as another end result.

In testing, one end of the creased fabric sample is inserted in a jaw, which holds it securely. The other end hangs free and is brought in line with a vertical line on the meter. The degree which the free end "bounces back" after a few minutes' suspension is then measured on the meter to show the actual amount of recovery.

With the new device, the differential in various fabric weights can be corrected, it was said.

PUBLISHER'S STATEMENT

of the ownership, management, circulation, etc., required by the act of Congress of March 3, 1933, of TEXTILE INDUSTRIES, published monthly at Dalton, Ga., for October 1st, 1947.

State of Georgia, County of Fulton.

Before me, a Notary Public in and for the State and County aforesaid, personally appeared John C. Fonville who, having been duly sworn according to law, deposes and says that he is the Editor of TEXTILE INDUSTRIES, and that the following is to the best of his knowledge and belief, a true statement for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in Section 411, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Editor, John C. Fonville, Atlanta, Ga.; Business Manager, Maynard L. Durham, Atlanta, Ga.

2. That the owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; Estate of W. R. C. Smith, Atlanta, Ga.; W. J. Rooke, Atlanta, Ga.; O. A. Sharpless, Atlanta, Ga.; T. W. McAllister, Atlanta, Ga.; E. W. O'Brien, Atlanta, Ga.; J. C. Cook, Sao Paulo, Brazil; R. P. Smith, Atlanta, Ga.; Mrs. E. L. Philpot, Atlanta, Ga.

3. That the known bondholders, mortgagees and other security holders, owning or holding 1 per cent or more of total amount of bonds, mortgages, or any other security holders are: None.

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JOHN C. FONVILLE, Editor.

Sworn to and subscribed before me this 26th day of September, 1947.

SEBA J. JONES, Notary Public.

My commission expires February 19, 1950.

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George S. Harris of Dan River Mills, newly elected Chairman of the Board.

Condition of Economy

Subject of Institute Meet

Bright outlook for cotton textile industry was general view of speakers at annual meeting.

Staff Report

FORECASTS during the Cotton-Textile Institute's 21st annual meeting at the Waldorf-Astoria, New York, October 22-23, provided a bright outlook for the cotton-textile industry. It will enter 1948 with unprecedented financial strength, was the general view of the speakers at this session of the Institute.

The initial address to more than 250 cotton mill men and textile merchants representing all sections of the country, was given by Sumner H. Slichter, Lamont University professor, Harvard University. Mr. Slichter's talk covered two phases: (1) A look at the current economic condition, and (2) The problems of transition ahead. "It is dangerously good," Mr. Slichter stated with regard to the current condition of the economy, and he sees no immediate change in its general condition. Adjustments ahead, as enumerated by the speaker, are change in price structure, and a drop in net export surplus.

Institute President, Claudius T. Murchison, in his report to the group, said that industry earnings for the most part "are being plowed back into corporate investment for purposes of re-equipment, modernization of methods, and research. It was essential that this be done because for six years there has been a great paucity of new machinery and this deficiency must be overcome if American industry is to hold its place in the postwar world of the future. In the preparation for that future, the industry is showing great vision." Continuing, Dr. Murchison stated that "the industry's excess capacity, in terms of efficient looms and spindles, has disappeared."

Unless machinery production is expanded at an unprecedented rate, he predicted that there will be a continuance of a tight situation for at least five years.

The opening session further featured a talk by G. Ellsworth Huggins, chairman of the Industry-Wide Committee on Public Relations. Mr. Huggins stressed the urgent need to acquaint the public with the importance of the textile industry and to gain greater "respect and admiration for the people who work in the mills," rather than remaining silent and indifferent to the endless line of allegations, accusations, and recriminations made towards the industry.

Percy S. Howe, Jr., chairman of the board, was the final speaker of that morning's session, and rendered to the membership an accounting of the preceding year and also some observations made on his recent trip to England. "Frequently asked is the question of whether the current British austerity," Mr. Howe said, "is real or over-stated for purposes of propaganda. I can assure you that it is very real and that the reports do not misrepresent conditions."

He drew the conclusion that "the effect of future developments will not be limited to Great Britain, but that there will be inevitable repercussions upon our economy."

The luncheon speaker, Chauncey Parker, director of administration of the International Bank of Reconstruction and Development, had as his subject "Uncle Sam Looks Abroad," giving an outline of the purpose and functions of the International Bank.

Following this there was a board of directors meeting and election of officers. George S. Harris, president of Dan River Mills, Danville, Va., was elected chairman of the board of directors. Arthur M. Allen of the Baltic Mills Co., Baltic, Conn., and Charles C. Hertwig, Bibb Mfg. Co., Macon, Ga., were elected vice-presidents. Mr. Murchison was re-elected president and Paul B. Halstead is again secretary-treasurer. Twenty-five new directors were chosen to serve for three years as well as two for two years and one for one year.

A former president of the Institte, George A. Sloan, served as toastmaster at the evening banquet. Congressman Fred A. Hartley, Jr., reviewed the provisions of the Taft-Hartley Act in his address to the mill men. He pointed out that it is planned to strengthen the weak parts of the law during the next session of Congress.

The following morning, Dr. Leo Wolman, professor of economics, Columbia University, spoke to the group on "The Issues of Labor Policy."

Brigadier General Herman Feldman, Office of the Quartermaster General, Washington, D. C., spoke next, and stated that the Quartermaster Corps is anxious to have their senior officers and contracting officers become acquainted personally with the textile men so that business relations would become more effective.

This year's convention of the Institute was brought to a close with an address from Gilbert H. Montague, of the New York Bar, on the "Fact and Fiction About Mergers in Industry."

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WINDING MACHINES — *Principles and Practices*

By JESSE W. STRIBLING
Universal Winding Co.

Article 4

COVERED in the preceding article was the standard spindle brake on the No. 50 machine, whereby the spindle is stopped instantly when an end breaks or runs out.

In some cases, such as when large, heavy packages are being wound, it may not be desirable to have a quick stopping of the spindle. The "paddle-type" brake, as shown in Fig. 18, is designed to give a slow stop to the spindle.

This brake may be applied to the No. 50 machine (with straight-belt drive) by changing the arm lifter and replacing the brake shown in Fig. 17 with a cover over the brake wheel on the spindle. It is not necessary to remove the brake wheel.

For use with the paddle brake, the arm lifter is provided with an extension (A, Fig. 18) which facilitates adjusting the brake. With the spindle stopped ,the extension rests on the tie rod; while in this position, the two adjusting screws (B) are set so that the back (outside) faces of the locking point and the brake lever pin (C) are in line.

The brake pad (D) is adjusted over the crowned surface of the brake bracket by means of the two screws (E). The clearance between the brake pad and the spindle driving pulley should be .040″ with the spindle running.

When the paddle-type brake is used, it is advisable to keep the pulley face clean in order to insure uniform braking action.

Proper Setting of Upper Traverse Frame Stop

The upper traverse frame stop is adjustable, and its function is to prevent the thread guide from touching the empty paper cone or tube at the start of winding a package. It contacts the traverse frame and, through proper adjustment, holds the thread guide the desired distance away from the surface of the cone or tube.

If the thread guide is allowed to touch or come too close to the paper surface, there is danger of the first few layers of yarn being roughed up by the thread guide, since the hard paper presents an unyielding foundation. If, on the other hand, the stop is set so that the thread guide is too far away, then the coils put on at the start of winding are inclined to be too soft, since they will not have been wound under pressure from the thread guide. Compression from the succeeding layers will cause the soft center layers to be squeezed out at the ends, resulting in an unsightly package which probably will not pass inspection.

The stop should be set so that three or four thicknesses of fine

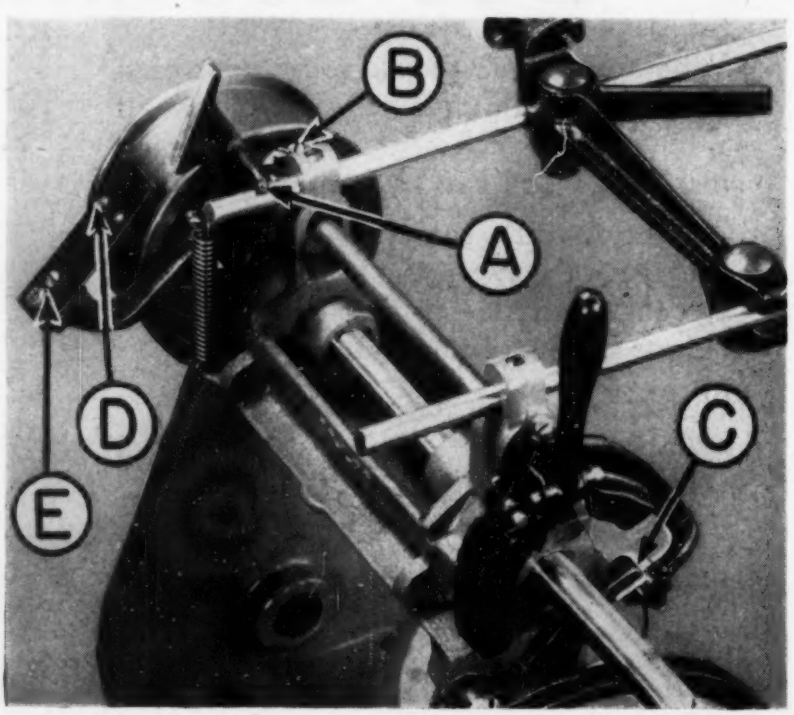

Fig. 18. Paddle-type brake for No. 50 machine, used where quick stopping of spindle is not desired. (The idler pulley assembly is shown out of position.)

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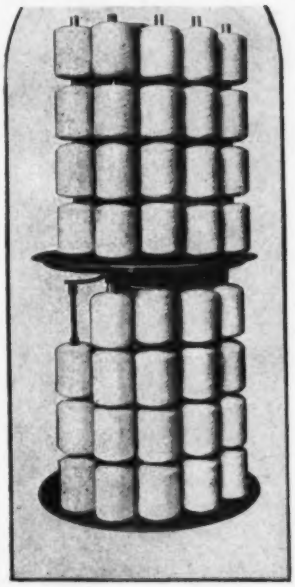
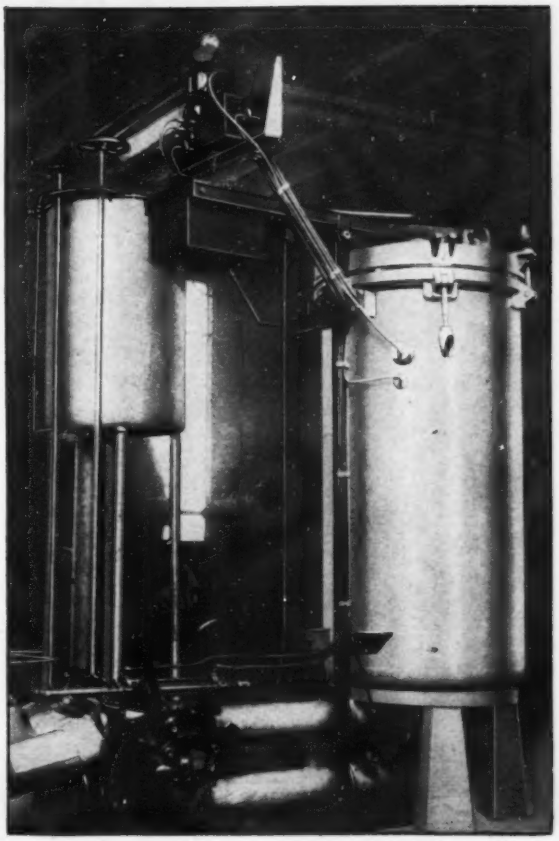
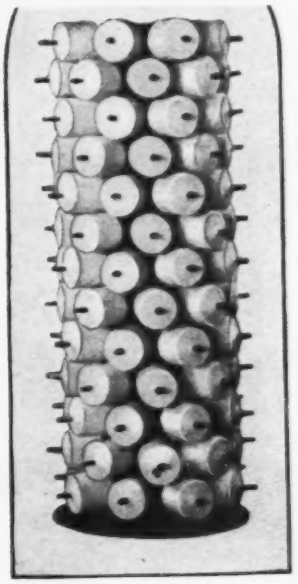


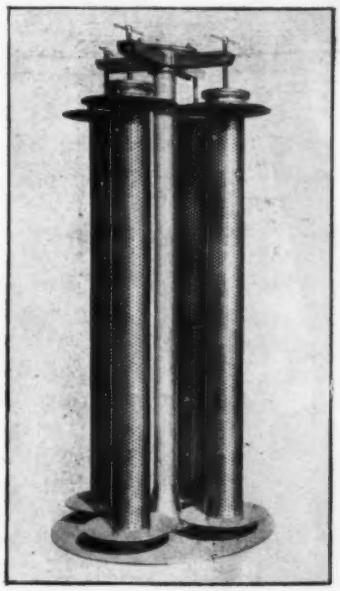
Stainless Steel Double Material Package Carrier.



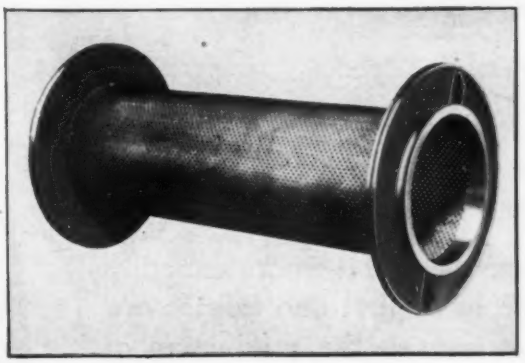
Model Kam Stainless Steel Combination Beam and Package Dyeing Machine—Capacity, One to Six Beams.



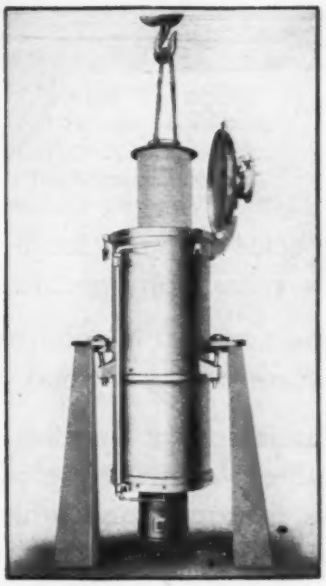
Stainless Steel Porcupine Package Material Carrier.



Stainless Steel Material Carrier with Four Small Beams.



Standard American Stainless Steel Beam.



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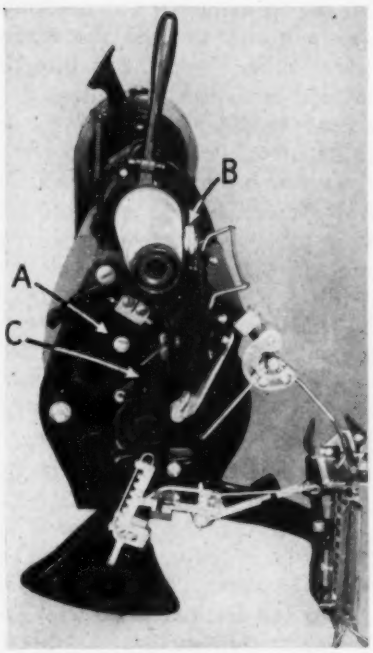


Fig. 19. Setting upper traverse frame stop at start of package: A, upper stop; B, showing thread guide not quite touching surface of cone; C, traverse frame.

yarn (less for coarse yarns) will be wound before the thread guide touches the yarn on the package. These layers will act as a cushion between the thread guide and the hard paper of the core. They will also allow for any slight eccentricity in the paper cone or tube, or for a thick lap in either. The setting is preferably made with the thread guide at the center of the traverse, and it should be checked at regular intervals—also after changing a thread guide, thread guide holder, or any part which may influence the setting.

The stop shown at A in Fig. 19 is in the shape of a cam which rotates around the screw. Another type, shown at A in Fig. 20, uses a screw and check nut, which gives a micrometer adjustment. This screw-type stop, generally used in winding filament synthetics, permits of more accurate settings than can be obtained with the regular type and eliminates any danger of the stop working loose.

Proper Delivery Point in Thread Guide

For good winding, the delivery of the yarn from the button guide to the package should be at the correct point of the guide. The thread guide is always, except at the very beginning, held against the surface of the package, but if the point where the yarn leaves the guide is not correct, proper lay of the yarn cannot be expected, particularly in winding close-wound packages.

A good way to check the delivery point is to place a piece of carbon paper between the empty cone or tube and the button guide. (The upper traverse frame stop will have to be moved away to permit the guide to touch the paper.) When pulled out, the carbon will leave a smudge on the face of the guide. If the top of the smudge is at the point of the "V" in the guide, the delivery point is correct for good winding. The face of the guide is so shaped that the delivery point will also be correct for the finished diameter of the package.

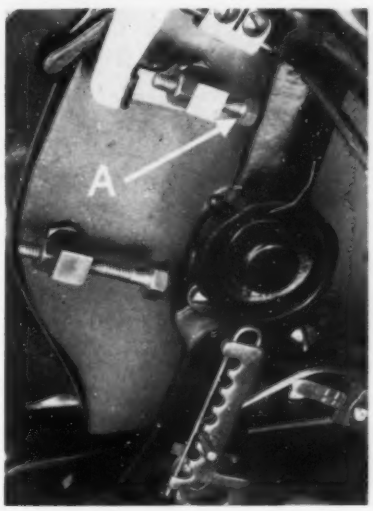


Fig. 20. Shown at A is the screw-type upper traverse frame stop on the No. 50 machine.

Adjustment of Tension Closer on Standard Finger Tension

The standard, or "regular," finger tension, as shown in Fig. 21, is used in winding practically all types of yarn, except filament synthetics, on the No. 50 machine. The pair of tensions lies in a plane at right angles to the axis of the package. In winding filament synthetics, to be dealt with later, the "anti-wear" finger tension, as seen in Fig. 19, is generally used; the plane of the tensions lies parallel to the axis of the package.

The tension closer (Fig. 21) should be set with care. Its function is to close the movable tension after the yarn has been threaded through the tension and to prevent the movable tension from jumping open while the yarn is running. It is *not* used to apply tension to the yarn while running.

The screw (E), just below the stud around which the weight (D) pivots, controls the position of the adjuster (F), which acts against the movable grid to keep it closed. With the yarn in the tension and the weight (D) down as far as it will go, the screw (E) should be loosened and the adjuster (F) moved up *close* to the edge of the movable tension, but *not* touching it. This setting should be made with a strand of yarn held tightly between the finger tensions, representing their operating positions when widest open.

It is not good winding practice to set the adjuster so that it touches the movable tension for the purpose of adding tension to the yarn. This is not the intention of the design, for it interferes with the proper release of tension, through the diff tension mechanism, as the package diameter increases.

Seating Thread Guide Holder in Traverse Bar

The thread guide holder should be properly seated in the slot of

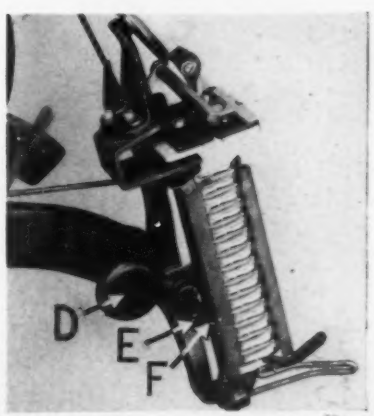


Fig. 21 (at right). Tension closer on "regular" type of tension; D, tension closer weight; E, screw; F, adjuster.

the traverse bar in order to have the yarn delivered to the package exactly the right point. As can be seen in Fig. 22, the flat lower edge of the holder should always be held firmly against the bottom of the slot. To accomplish this, the angles of the points at each end of the holder are in contact only at their upper sides, at the left with the traverse bar and at the right with the screw. The purpose of this design is for the thread guide holder to be *pressed down* by the screw so that the bottom of the holder is held firmly against the flat base of the slot in the traverse bar.

It will be seen that the end of the traverse bar screw is cup-shaped. Should this cup become flattened, the screw will not press the holder down, no matter how much it is tightened. Therefore, when the screw becomes "mushroomed," it should be replaced, as it is an inexpensive part. When installed, it should be tightened with only moderate force.

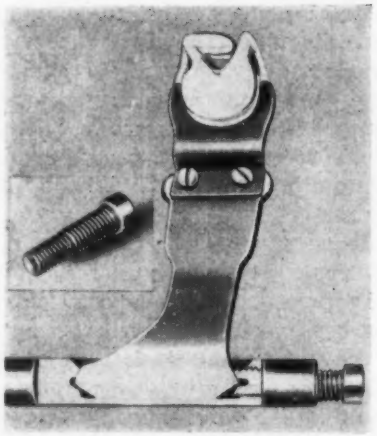


Fig. 22. Cut-away section of end traverse, showing correct seating of thread guide holder in bottom of traverse bar slot. The thread guide holder is fitted with clip-type porcelain button guide.

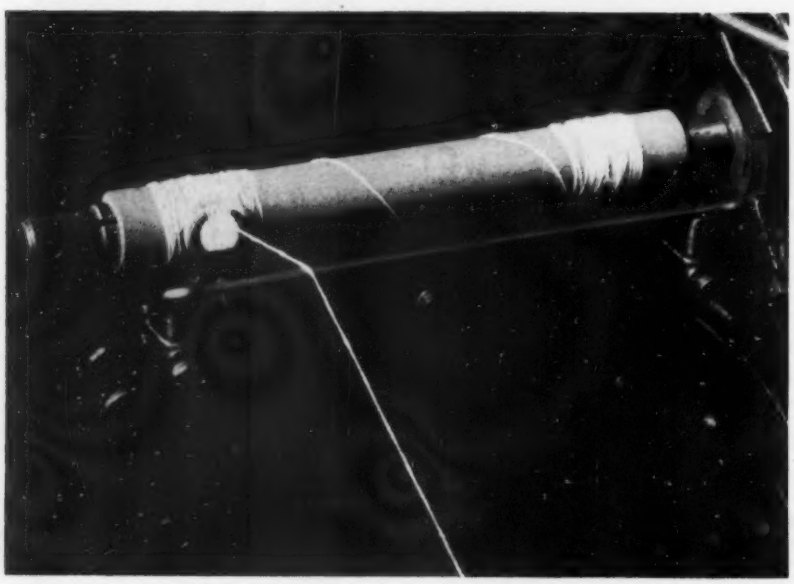
Positioning of Yarn on Package

When winding yarn on parallel tubes, it is desirable to have the yarn located centrally on the tube, with the paper core extending out of the yarn traverse an equal amount on each end. When winding on cones, at least one-quarter inch should be left at the base of the paper cone beyond the winding point; it is also important not to wind on the burnished or lacquered tip.

Proper location of the yarn between the ends of the container is obtained by the length to which the traverse bar is screwed into the traverse slide. There are 32 threads per inch on the end of the traverse bar, right-hand thread, so that one complete turn of the bar in the slide moves the thread guide 1/32″, or four turns will move it 1/8″.

As previously stated, the outer end of the traverse bar is slotted near the end to take the thread guide holder, which fits into the slot and is tightened in place by a screw. In order to change the location of the yarn on the core, it is first necessary to remove the thread guide holder from the traverse bar, so that the bar can be rotated. After it is removed, one of the points on the lower end of the thread guide holder should be held in the slot (to prevent the traverse bar from turning) and the screw run in as far as it will go (not too tight). Then the tip of the thread guide holder is removed, and the traverse bar can be turned in the traverse slide with a screwdriver to get the proper location. The thread guide is then put back into the slot and the screw tightened.

Fig. 23. Method frequently used at start of winding tube to prevent yarn from pulling in from ends; a few coils are wound by hand before placing end in thread guide.



Thread Guides

At the end of Article 1, the three types of thread guide assemblies most commonly used were listed: the clip-type button guide assembly, as shown in Fig. 22; the cemented porcelain button—or steel button—and thread guide holder assembly; and the pick-up guide.

There are too many different variations of the types of thread guide assemblies mentioned, as well as many special guides for special purposes, for all of them to be fully described here. However, because it is probably more widely used, it might be well to cover a little more fully the steel button guide.

The steel button, which may be of the type which is pressed into the holder (it may be soldered in), or held by a clip and screw (as shown with the porcelain button in Fig. 22), is made in several different slot widths. It is important to use a slot of the proper width for the yarn to be wound. Table 1 shows the width of slot corresponding to the number of the button. For instance, Button No. 1 has a "V" slot, coming to a point at the bottom; No. 2 has a slot .05″ wide, etc.

Before deciding upon the button number, it is first necessary to know the diameter of the yarn being wound, which is obtained for

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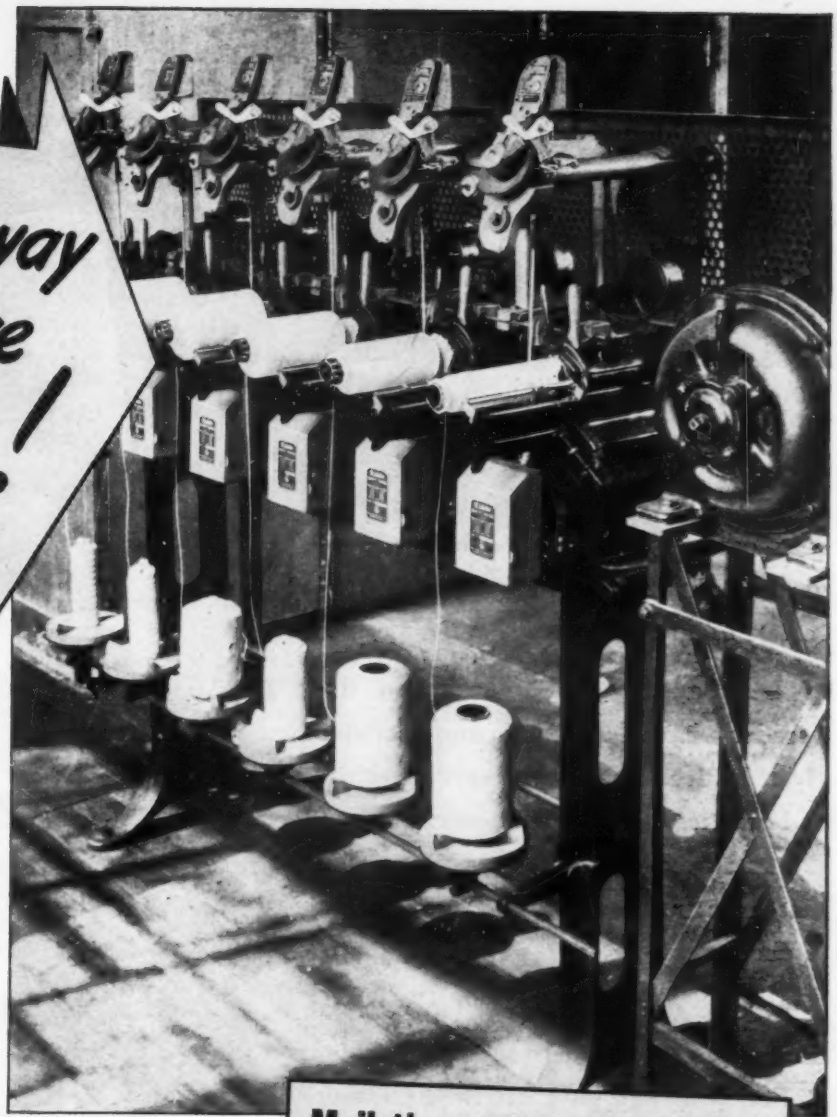

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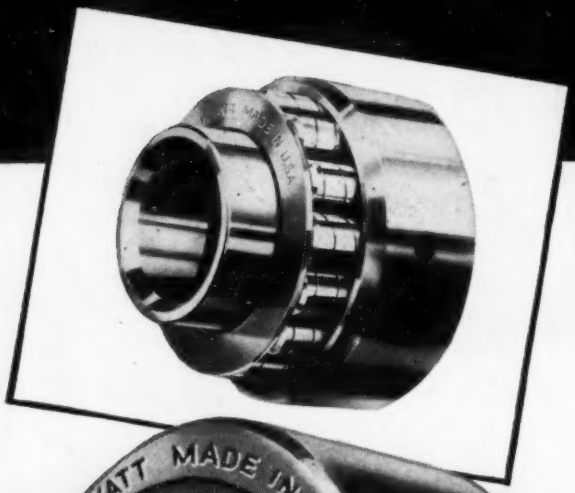

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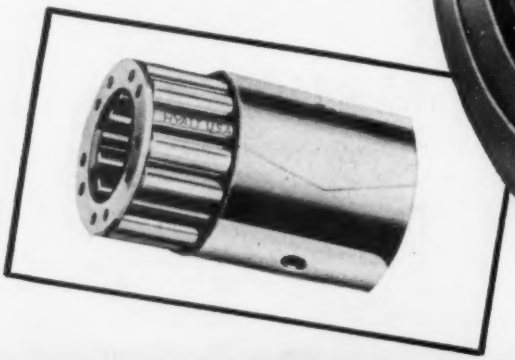

HYATT ROLLER BEARINGS

cotton yarns by use of the formula:

$$\text{Diameter} = \frac{.0383}{\sqrt{\text{count}}}$$

For winding single cotton yarns on the No. 50, the No. 1 button is generally used, a slot wider than the "V" hardly ever being necessary. The next slot, No. 2, is .05" wide, which should seldom be necessary for single yarns.

For ply yarns, it is of course necessary to use the resulting yarn number in the formula given. For example, if 8s/8 is to be wound, the resulting number is 1, and the diameter would be .038". The button number to be used should be with a slot next wider than the diameter of the yarn; in this case, button No. 2.

In multiple-end winding, where several ends are wound side-by-side, it is necessary first to find the diameter of one end and then multiply it by the number of ends, which will give the width of the group. The button guide with the next wider slot is selected. As an example, assume that six ends of 10s/1 yarn are to be wound. The diameter of 10s/1 is .012" and the width of the six ends would be .072". The next wider slot is .110" (No. 4).

TABLE 1
Widths of slots in steel button guides

Button No.	Width of slot
1	"V"
2	.05"
3	.07"
4	.11"
6	.12"
8	.15"
10	.18"
12	.21"

In winding 5/8" hole paper tubes, the starting diameter is approximately 27/32", and the angle of the yarn across the surface of the bare paper is so great as to have a tendency to draw in from the ends of the traverse, causing the yarn to bunch in the center, which will give trouble when it is drawn from the tube later. One method used for preventing this condition is for the operator to wind a few coils by hand at each end of the traverse, as shown in Fig. 23, before putting the end in the thread guide. A hook is generally used to prevent burning or cutting the operator's fingers.

Another remedy is for the operator to be provided with a sponge, kept in a small container of water placed on the winder in a convenient location. Before starting up a spindle on a bare tube, she wets the paper near the ends of the traverse to give a better gripping surface for the yarn.

Quality Control Discussed by Gaston County STA

Staff Report

DISCUSSING quality control before the Southern Textile Association at the Vocational Textile School in Belmont, N. C., E. J. Donohoe, Philadelphia representative of the United States Testing Co., told the Gaston County Division that there are three classes of quality control in existence within the textile industry today.

Mr. Donohoe stated that the best plan is followed by the large progressive mills. This group takes the quality control program seriously, making all necessary tests regularly, recording the results, interpreting these records, and then taking necessary action to improve the quality of their product.

The second plan in operation among some mills is that where the superintendent demands certain tests on the product at various stages of manufacture. A tremendous amount of data is accumulated, but these reports are filed away without any action ever being taken on them.

The third plan in operation consists of having an operative conduct a few tests. The operative is not usually trained for this work, and has no true interest in it.

Mr. Donohoe stated that quality control testing is a waste of time and effort in any plants except those where sufficient supervision is given to assure the mill that the results are accurate. Even then it is a waste of time unless these reports are turned over to some individual who has the ability to interpret the results and to suggest changes that will improve the product.

Commenting further on quality control, Mr. Donohoe said: "A number of people are under the impression that quality control testing means that sufficient tests must be performed to maintain a consistent quality.

"The progressive mill interprets quality control in an entirely different light. Its objective is not to maintain quality but to improve the quality of the product." Mr. Donohoe went on to say that the large organizations are not investing considerable sums of money in testing equipment and personnel solely to maintain quality. They know that through quality control tests, they can improve their product, improve working conditions, and increase their production.

The buyer is the judge today, according to the speaker, and in the present market he is forced to demand quality. If the quality of the product which he is purchasing is not consistent, he will soon seek a new source of supply.

Mr. Donohoe recommended that the manufacturer set up plans to improve the quality of his product or face the possibility of losing a large share of his customers.

"If taken seriously," he said, "the quality control item is one that can be licked by the average mill. It means turning over this work to a responsible party who is in a position to supervise the testing, and to interpret the results. This individual should have no connection with the various departments that would influence his work. He should be given complete control and sufficient authority to see that his suggestions are placed in operation."

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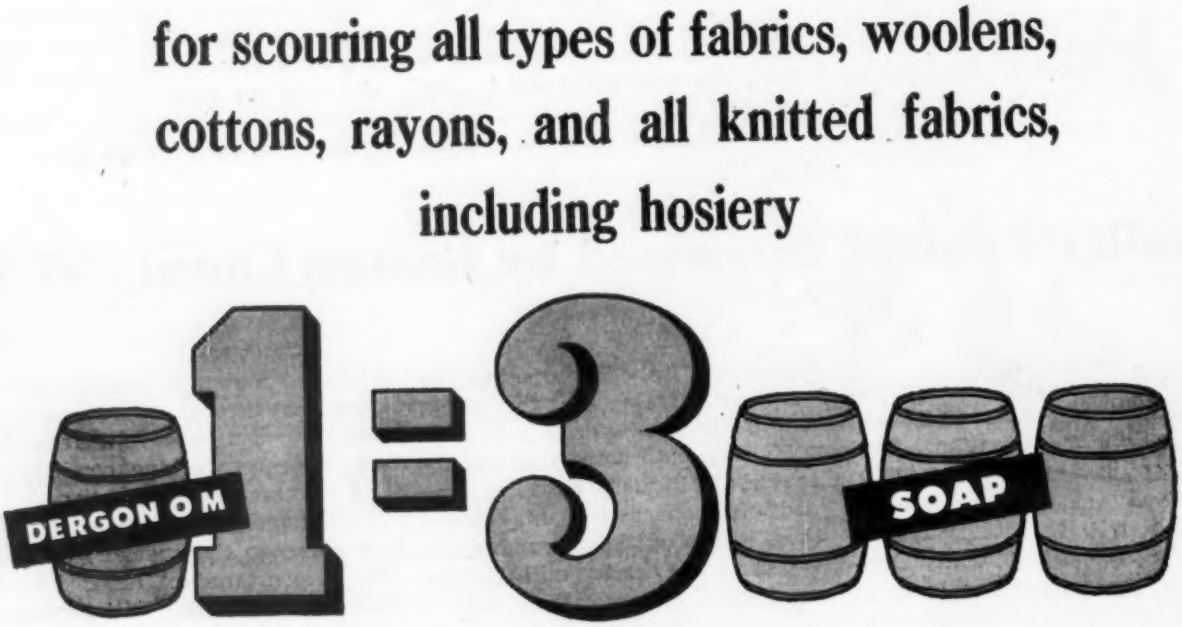

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Cotton Warp Sizing

By PAUL V. SEYDEL, D.Sc.

Testing of sized yarn, including methods of sampling, determination of moisture and size content, and sample calculations.

Article 12

A PERFECT warp is an ideal to be approached. Variations and imperfections are always present, due to the cotton, the processing of the cotton and the size. One of the functions of size is to cover up the imperfections of cotton and cotton processing.

In the first chapter, we discussed the properties of an "ideal" size; actually, most of these were properties that the size should give to the warp, and we will therefore not repeat them here.

It is not considered, however, wasted space to repeat that the well-sized warp is one that will have the best weavability. Some persons in discussing breaking strength, shedding, feel, etc., sometimes lose sight of the real reason for sizing. A well-sized warp will, first of all, weave well.

In appearance and feel, it will be uniform. A comparatively soft or a harsh feel may be desired, and can be produced at will, but it should be uniform. The size film must be sufficiently transparent to be invisible—only its effect of binding the fibers and stiffening the yarn should be seen.

Ideally, it should not shed. But this ideal has not been reached in practice. Shedding is satisfactory if only a small number of broken fiber ends are lost, and the size itself remains on the yarn. To apply a sufficient amount of size on a warp to practically eliminate shedding would mean that the yarn would have to be made so stiff that it would not weave well.

The well-sized warp will have plenty of moisture left in it. This is an indication that the size film has not been baked, with the resultant loss of flexibility and elasticity. Also, it will not be so dry that it cannot readily pick up the small additional amount of moisture necessary for weaving from the humidity of the weave room. On the other hand, it will not be so damp that it will be in danger of mildew attack, or be gummy and ball up at the drop wires.

It will be clean. A clean slasher room and clean storage space for warps will contribute to producing higher grade goods. Dust and dirt are easily absorbed by a damp warp sheet.

Testing Sized Yarns

We may consider two things in testing a sized yarn to evaluate the sizing. First, the weavability; second, the increase in tensile strength. The increase in tensile strength of the sized warp is given directly to the cloth, adding value to the cloth. This is a simple conception and requires no further discussion.

Testing of the weavability, however, is far from being simple. Many chemists and textile engineers have tried for decades to develop laboratory methods for evaluating the weaving properties of a yarn without actually weaving it. Any satisfactory method that could be developed would be worth a great deal in time and materials saved in experimenting with new methods, materials and formulas, not only in sizing, but also in all the previous processing of cotton.

The mill superintendent should be particularly warned about judging the value of a size from one or two properties, such as added weight or tensile strength. It is much too easy to go astray by relying on such statements as: "All things else being equal, yarn with the highest tensile strength will weave best." True enough, but it is so rare that "all things else" are equal.

Indications as to the weavability may be obtained from evaluation of several properties, but even these indications are not too reliable. The most recent and most thorough investigation into this subject is described in the nearly hundred-page report of the Textile Research Institute on "Spun Rayon Warp Sizing," Nov., 1944. Many different properties of the sized yarn and of the films of sizing materials were studied in relation to actual weaving tests. By evaluating all the properties at once, some indications as to the weavability could be obtained. But to illustrate what they found about individual properties, we quote several excerpts:

"No consistent correlation was found between abrasion resistance and weaving performance. . . . Improvement in tensile strength, while important, is not of first significance in securing high weave room performance . . . , . . . the weaving efficiency increased much more than might have been anticipated on the basis of stiffness rating. . . ."

Two of the most important qualities seemed to be the elongation of the sized thread, and the hardness of the film produced by the sizing materials. Yet these two qualities alone could not de-

termine the weavability. Many other investigators who have published articles have reached the same conclusions.

However, this should not discourage the making of tests. An indication is better than nothing, and may often show the reason why a warp is running improperly. Whereas the tests will not always show that a warp will run well, they will quite often show up a bad warp. There are certain limitations that must be met. For instance, the tensile strength should be increased. A normal increase would be between ten and thirty-five per cent, depending on the yarn, the cotton, the size formula (heavy or light) and the materials. Less than ten per cent would generally indicate a poor job of sizing.

Likewise, elongation of sized yarns below four or five per cent will indicate that a warp may weave badly. Elongation may often be increased by decreasing the stretch on the slasher.

Desize tests to determine the per cent size on the yarn are of value when made from time to time to check uniformity. Lack of uniformity in any of the tests that may be made is an indication that troubles may be expected. Where non-uniform results are obtained, the cotton and its processing should be checked, as well as the slashing.

Stiffness may be tested by the amount a yarn will bend under its own weight. No definite standard can be set, but the yarn must be sufficiently stiff that it will not kink, and yet not so stiff as to have lost its pliability and become brittle.

It has been shown that the hardness of a size film has a definite bearing on its weavability. This, however, must be tested on a film of the materials, as there is no way at present to test it on the yarn. The technique of preparing and testing films is very difficult.

Methods have been devised for testing the softness and lubrication given a yarn by sizing. These are extremely important items, but so far, the tests are not sufficiently reproducible to have given any results which could be correlated with weavability.

It is not within the scope of this article to go into detail on the manifold ways in which yarns may be tested. These can be found in the literature, including a half dozen or more standard ways for determining tensile strength alone. Tests may be made on tensile strength, elasticity, elongation, stiffness, abrasion resistance, fiber lay (by comparison with standards), friction, moisture and size content. Films may be cast from the size materials and tests made on them to show tensile strength, elasticity, elongation, hardness, flexural and torsional properties, clarity, folding endurance and creep.

On the warp itself, the usual loom stop tests are the actual proof of whether a warp has good weavability or not. A short length of warp may be tested by disconnecting the let-off motion and allowing the loom to run without moving the warp. This type of test will be discussed later.

Where a mill is large enough to keep up a laboratory, some of these tests should be run regularly to check on uniformity. The writer has noticed that mills having laboratories generally produce a more uniform and hence a more valuable cloth. This may be merely coincidence, but it is certain that with a laboratory, troubles may be found and tracked down before they come to the mill's attention through customer complaints.

For those mills that feel they cannot afford a laboratory, and those that desire occasional check on their own laboratories, suggestions and assistance with their work, or help in organizing a new laboratory, most of the starch and sizing companies maintain service laboratories that are always on call.

Tensile strength tests should always be made in conjunction with elongation measurements, for the latter, if too low, will affect weaving more adversely than low tensile strength.

Moisture and size content can be determined in the mills without the services of an experienced chemist. The methods are given here.

The ideal moisture content of a warp for good sizing is eight per cent. This should be as it comes off the slasher, not a regained moisture, because if the size has been dried so as to contain much less than eight per cent it will have lost elasticity which regained moisture cannot return to it. The elasticity that overbaking has caused it to lose is lost permanently. A baked warp is brittle, ties

Laboratory technician using inclined plane tensile strength tester.

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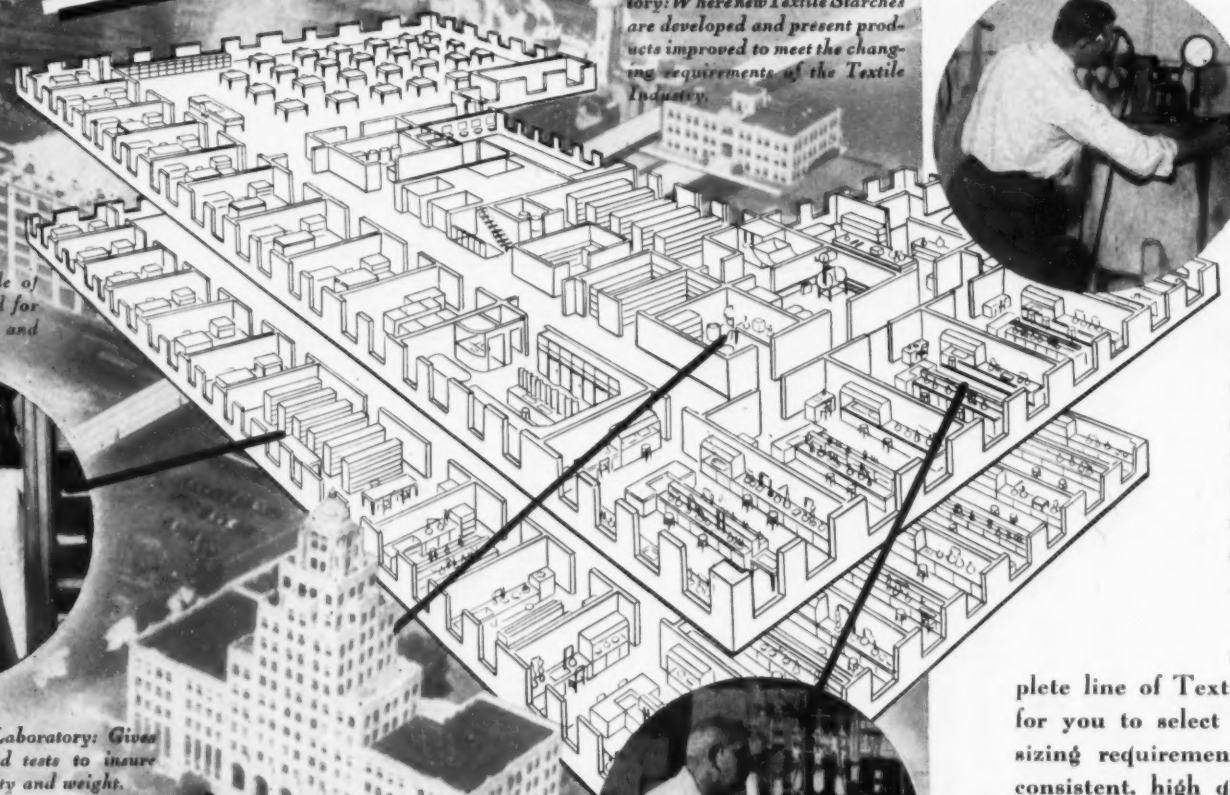

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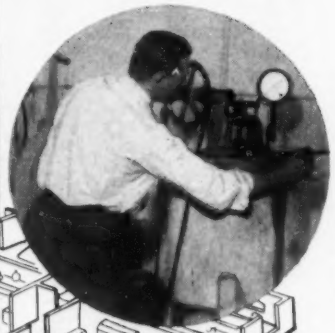
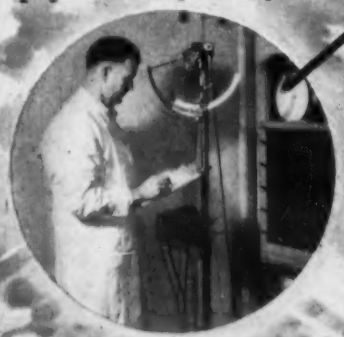


An over-all view of the Research Laboratories located on two floors in the Administration Building of the A. E. Staley Manufacturing Company at Decatur, Illinois. The Control Laboratories are located in a separate building on the plant grounds.

•

Research Library: An example of the complete facilities provided for our staff of expert chemists and technicians.

Textile Testing Laboratory: Gives warp yarns rigid tests to insure proper weavability and weight.



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and weaves poorly, and gives inferior cloth.

When the warp is dried in chambers, as is sometimes done, the temperature must be carefully regulated. I cannot think of a better investment for a mill, be it for cotton or any other fiber, than sufficient and proper slashing equipment to make it possible to dry the warp at the lowest possible temperature.

Some warp dressers think that by weighing a set before and after sizing they get the percentage increase in weight representing the additional size. This would be correct if the amount of moisture before and after sizing were the same, but in numerous samples of warp that we have analyzed, we have found anywhere from two per cent to 14 per cent of moisture. Suppose a warp contained eight per cent of moisture before sizing and two per cent after sizing, it may show a regain of only four per cent and yet actually have ten per cent of dry added size, the analysis before sizing showing:

Cellulose	88%
Water	8%
Ash and Fats, etc.	4%

and after sizing:

Cellulose	84%
Water	2%
Starch, sizing, etc.	14%

This warp has been dried far too much and with the proper amount of moisture should analyze:

Cellulose	79%
Water	8%
Starch, sizing, etc.	13%

This would then show about a ten per cent regain. On the other hand, a warp fairly dry before sizing might show scarcely 4% moisture, 92% cellulose, and 4% fats, ash, etc., and after sizing: 14% moisture, 12% sizing, etc., and 74% cellulose. If satisfied with weighing the above warp before and after sizing, the warp dresser may think that he has increased the weight of his warp 20 per cent, which appears to be so but, in reality he has added no more than ten per cent of dry sizing ingredients to his warp.

The American Society for Testing Materials gives a standard method of analyzing for size content which consists of extracting

Courtesy, W. & L. E. Gurley

Stiffness of textile fabrics may be measured with this instrument.

with chloroform followed by removal of the starch with enzyme. The designation of this method is ASTM Method D629-42T. Essentially the same method is used by the U. S. Government as part of Federal Specification CCC-T-191a. ASTM also lists under Specification D 334-40 for cotton goods for rubber coating, a method consisting of boiling with dilute hydrochloric acid followed by treatment with ammonia.

We have found in our laboratory that these methods are fairly satisfactory for the purposes for which they are intended. The enzyme method is supposed to be valid for all textile materials, except cotton. Where sized yarn or cloth is analyzed to meet certain specifications, use of these methods will be legally acceptable, even in preference to more accurate methods, simply because they are standard.

On the other hand, we have found a number of sizing materials that are not adequately removed by enzyme treatment, which acts principally to solubilize the starch. One of the reasons for using enzyme instead of acid-alkali treatment is that not all textile fibers will resist the acid and alkali. But since cotton will resist this treatment, we prefer to use a method that will remove a greater number of the sizing materials, as long as only cotton is under consideration. Because we have found this method to be the best and most accurate for analytical desizing of cotton, we give it here.

It has the advantage of consuming less time. Results may be obtained within eight hours of receiving samples, if separate samples are used for size and moisture and a good mechanical forced draft drying oven is used.

Sampling

When a beam is doffed, 18 to 24 inches of sized yarn is cut off the end of the warp sheet and placed immediately in an air-tight container. A one-pint fruit jar is best suited for this. If strips of gummed tape are used, place tapes 30 inches apart on the warp, and cut along the center of the tape. Yarn under the tape must be cut from both ends of the sample before inserting the sample in the jar. In sampling, the slasher must not be slowed down until just ready to doff, or the sample may come from warp which has been run slowly through the size box and over the drying cylinders, thus giving false results, which are worse than no tests at all.

The same length or weight sample of raw (unsized) yarn is best obtained from the section beams after the warp has run out, and placed immediately in a sealed jar. (This yarn must not be allowed to pass between squeeze rolls or over the cylinder.)

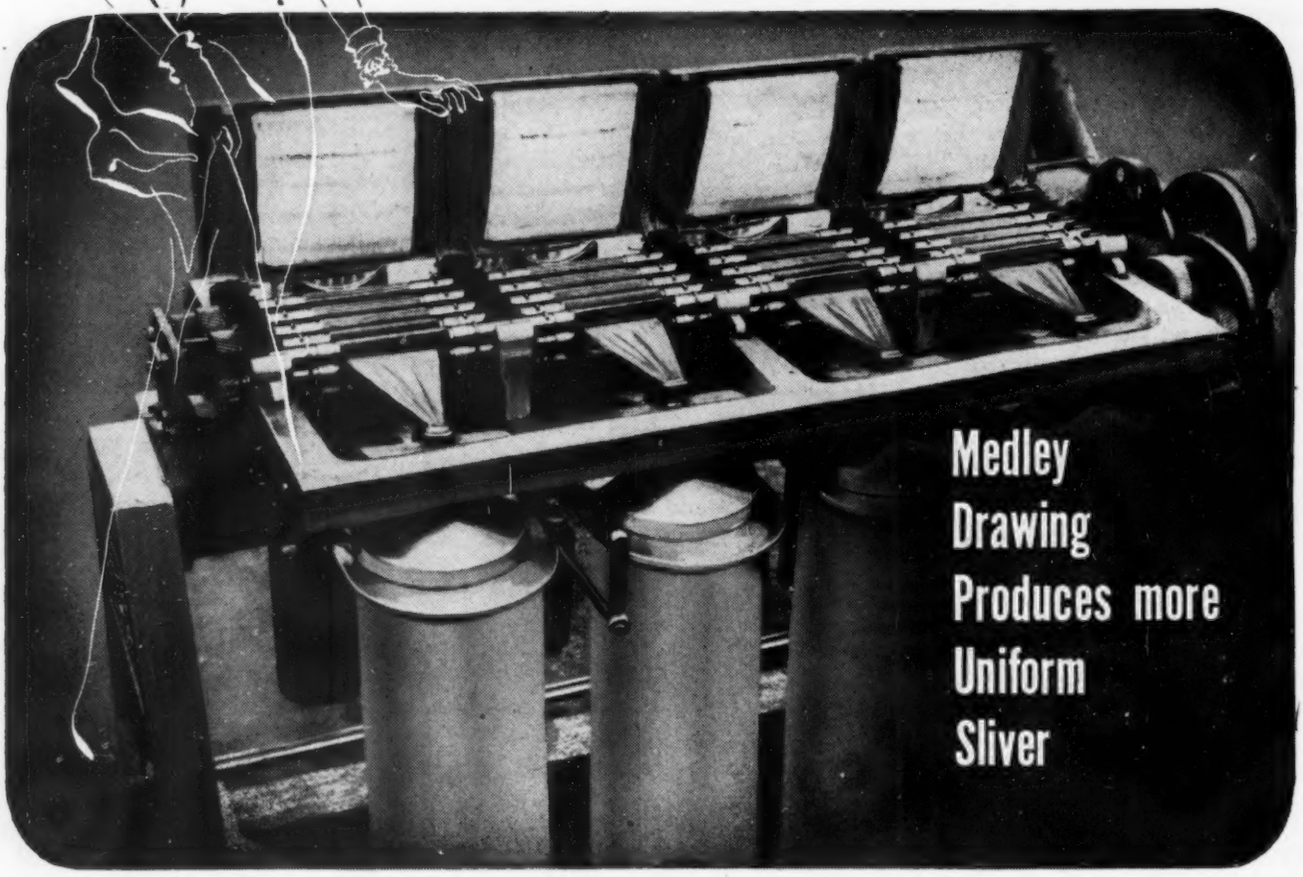
Of course, the hands of the sampler must be free from grease and perspiration, and the jars must be clean and *must be dry*.

Moisture

Place a sample of approximately ten grams in a tared closed container and weigh accurately to 1 or 2 milligrams. (A glass stoppered vial or an aluminum weighing box is recommended. No wood or paper should be used, as their moisture content will vary.) Since the sample has a nearly normal regain at this point, weighing in a closed container is not absolutely necessary if the weighing is done rapidly, and if the exact moisture content is not too important. However, all weighings of dry yarns must be done in closed containers because dry yarn takes up moisture from the air very rapidly.

Remove from container, place on circles of filter paper or sheets of white paper marked to identify the

Beauty and the Sliver



If she knew as much about drawing sliver as she does about hemlines — she'd say "Medley Drawing, Please!" — because she would know that good fabrics come from good yarns that come *only* from good drawing.

Knowing that good yarns cannot be made from bad drawing, more and more mill men throughout the industry are saying "Medley Drawing, Please!" Yes, Medley's 5 roll, "8 ends up" drawing is delivering day in, day out, a more uniform sliver. More than that, Medley drawing handles all fibers, including cotton, wool, synthetics, ramie and blends in all staple lengths from very short up to 13 inches.

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sample, and heat in oven 3 or 4 hours at 105° C. Replace in container, cool in desiccator. Just before weighing, remove top of container momentarily, only long enough to equalize the air pressure inside. Weigh. Heat for thirty minutes more, and reweigh. If weight is constant to one or two milligrams, loss represents moisture. If not, continue heating and weighing at 30 minute intervals to constant weight.

Size

It is preferable to use the same sample for size determination that was used for moisture. However, if time is short and it is desired to speed the analysis, a separate sample may be weighed and used.

After weighing put sample in 600 cc wide-mouth Erlenmeyer flasks. (These are preferable to beakers, because loss of water during boiling in a beaker concentrates the solution too much.) Fill the flask with warm water containing ½% of a wetting agent and allow to stand till the samples are wet out. Decant and rinse sample well. The rinsing process should be done carefully with due regard to prevention of loss of fibers. The solution is decanted through a fine mesh brass or monel screen, and rinsing is accomplished by soaking with hot water and squeezing out the sample several times by hand over the screen. Fibers collected on the screen are returned to the flask.

Add 400 cc of boiling or nearly boiling water to the flask and sample; then add 20 cc of 2.5° Baume hydrochloric acid. Continue to boil 30 minutes, adding hot water from time to time as necessary to keep the volume to within five per cent of the original volume. Otherwise the acid will become too concentrated. At the end of the boil, decant and rinse ten times as above with hot water.

Repeat the above procedure, replacing the acid with 40 cc of 10% sodium carbonate solution. (Note: distilled water is not necessary for this analysis, unless tap water is very hard. Boiler condensate water is good for this type of work.)

Dry in oven to constant weight at 105° C. Loss is moisture, size, etc. (Item "etc." is natural fats, waxes, gums and other organic compounds soluble in water, weak alkali and weak acid, natural mineral matter and dirt.)

Calculations

In the unsized yarn, the loss in weight on the moisture test multiplied by 100 divided by the weight of the sample, represents the percentage of moisture in sample. Also, the loss in weight after the desize test multiplied by 100 divided by the weight of the sample, represents the percentage of moisture, natural fats, waxes, mineral matter, dirt, etc. By subtracting the moisture percentage from the moisture and "etc." percentage, the "etc." percentage in the sample is obtained. By adding the moisture and "etc." together and subtracting from 100, the percentage of cotton cellulose is obtained by difference.

In order to calculate the percentage of size and moisture in the sized yarn and cloth, proceed as follows.

Calculate moisture same as in the raw yarn. Calculate item "size, etc." same as the "etc." in the raw yarn. Calculate the cotton cellulose same as the cotton cellulose for the raw yarn. To divide the item, "size, etc." up into its parts —viz., percentage of size and percentage of natural fats, waxes and salts—we must first bring the amount of cotton cellulose up to the same as the amount of cotton cellulose in the sample of raw yarn, in order to get them on the same basis.

In other words, divide the percentage of cellulose in the sized yarn by the percentage of cellulose in the raw yarn and multiply by percentage "etc." in raw yarn. This gives a figure which represents the percentage of "etc." in the sized yarn or cloth. By subtracting this from the percentage of "size, etc." we arrive at the percentage of size in the sample.

At first glance this may seem a bit complicated, but a little consideration will make it clear. When we analyze a sized yarn, the natural matter included under "etc." is chemically the same as many of the materials used in sizing—in many cases they may indeed be identical, such as, for example, the natural chlorides and cotton glycerides, pectin gums, and the hydrocarbons. Since they are identical and cannot be chemically separated, we must determine how much was originally in the yarn, and subtract the difference.

Now, what we want to know is not how much of the "etc." was in the raw yarn, but how much is in the sized yarn. So we analyze the raw yarn to determine how much "etc." goes with how much cellulose. If we have 91 pounds of cellulose in every hundred pounds of raw yarn, and this carried 4 pounds of "etc.", then our sized yarn, containing only 79% of cellulose, would carry correspondingly less "etc." in the ratio of 79 to 91. This is shown in the accompanying calculations.

As we are interested not only in the analysis of the sample, but also in many cases in the amounts of size and moisture added per hundred pounds of raw yarn entering the slasher, we also make the following calculations.

Since we have determined by analyzing the raw yarn that each 100 pounds of raw yarn contains so many pounds of cellulose, so many pounds of moisture, and so many pounds of natural waxes, etc., we must bring our analysis of our sized yarn to the same basis, in regard to the cotton cellulose, as the raw yarn.

In other words, we must find a common denominator such that when it is multiplied by the percentages found in the analysis of the sized yarn sample, the result will be a figure of cotton cellulose equal to the percentage of cellulose in the raw yarn sample. We multiply "size in sample" and moisture by this same denominator, thereby keeping the ratio of each ingredient. Now, all we have to do is subtract the amount of moisture in the raw yarn from the amount in this new ratio, and this will give us the number of pounds of moisture added to every 100 pounds of raw yarn. The result obtained by multiplying "size in sample" by this denominator will be size added per 100 pounds.

The estimation of fats, including waxes, oils, glycerides and hydrocarbons in yarn or cloth, is a highly technical procedure re-

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SAMPLE CALCULATIONS

Per cent moisture in raw yarn:

Weight of sample	11.375
Dry weight	10.792
Moisture loss	.583

$$\% \text{ Moisture} = \frac{.583 \times 100}{11.375} = 5.13\%$$

Per cent "Etc." in raw yarn:

Weight of sample	11.375
Weight after desizing	10.353
Total loss	1.022

$$\% \text{ "Etc."} = \left(\frac{1.022 \times 100}{11.375}\right) - 5.13$$

$$= 8.98 - 5.13 = 3.85\%$$

Per cent cellulose in raw yarn:

$$\% \text{ cellulose} = 100 - (5.13 + 3.85) = 91.02\%$$

Per cent moisture in sized yarn:

Weight of sample	10.890
Dry weight	10.272
Moisture loss	.618

$$\% \text{ Moisture} = \frac{.618 \times 100}{10.890} = 5.67\%$$

Per cent size, etc., in sized yarn:

Weight of sample	10.890
Weight after desizing	8.605
Total loss	2.285

$$\% \text{ Size, etc.} = \left(\frac{2.285 \times 100}{10.890}\right) - 5.67$$

$$= 20.98 - 5.67 = 15.31\%$$

Per cent cellulose in sized yarn:

$$\% \text{ cellulose} = 100 - (5.67 + 15.31) = 79.02\%$$

Corrected "Etc." from raw yarn:

$$= \left(\frac{\% \text{ cellulose in sized yarn}}{\% \text{ cellulose in raw yarn}}\right)\left(\text{"Etc." in raw yarn}\right)$$

$$= \left(\frac{79.02}{91.02}\right) \times 3.85 = 3.34\%$$

Per cent size in sample:

$$= 15.31 - 3.34 = 11.97\%$$

Moisture and size added to 100 pounds of raw yarn:
(Calculated only for the sized yarn)

Per cent size added:

$$= \left(\frac{\% \text{ cellulose in raw yarn}}{\% \text{ cellulose in sized yarn}}\right)\left(\% \text{ size in sized yarn sample}\right).$$

$$= \left(\frac{91.02}{79.02}\right) \times 11.97 = 1.152 \times 11.97 = 13.79\%$$

(This is equivalent to pounds size added per 100 pounds of raw yarn)

Per cent moisture added (use same correction factor):

$$= \left(\frac{\% \text{ cellulose in raw yarn}}{\% \text{ cellulose in sized yarn}}\right)\left(\% \text{ moisture in sized yarn}\right)$$

$$- \% \text{ moisture in raw yarn}$$

$$= (1.152 \times 5.67) - 5.13 = 6.53 - 5.13 = 1.40\%$$

Total added weight per 100 pounds raw yarn:

$$= \text{Size added plus moisture added}$$
$$= 13.79 + 1.40$$
$$= 15.19\%$$

quiring an expert of unusual skill to determine even approximately the nature of a mixture of several fats and waxes.

In general, it is best, unless a mill is large enough to employ a trained, experienced chemist and maintain a well equipped laboratory, to have such analyses made by a chemist experienced in that particular line of chemistry. We strongly suggest where this is done, that checks on the same sample be made by asking one or more of the firms supplying the mill with starch or compound to analyze same, reporting only those groups that can be determined with reasonable accuracy.

More harm than good usually comes from an analysis that is not accurate in its findings. Many curious phenomena occur in chemistry. New discoveries are being made daily to still further complicate the matter. Only through practical tests of scientific theory can one be sure. Three samples of pure platinum, all analyzing chemically the same, may have three widely different actions in the manufacture of sulphuric acid, simply because their physical states were different. This is true of any number of substances. Also, many substances acting alone have one set of properties, while in the presence of other substances they have an entirely different set and react quite differently.

Traffic Group Organized to Handle Cotton Textiles

Organization of a traffic group designed to handle current problems in the movement of cotton textiles in distribution has been announced by The Association of Cotton Textile Merchants of New York.

Thomas Smith of Cone Export & Commission Co., Inc., was chosen chairman of the new subsidiary group of the association at the organization meeting. There was an extended discussion of problems relating to delays in the movement of textile shipments from southern mill points into the New York area, particularly with regard to less than carload lots.

Kōnrite

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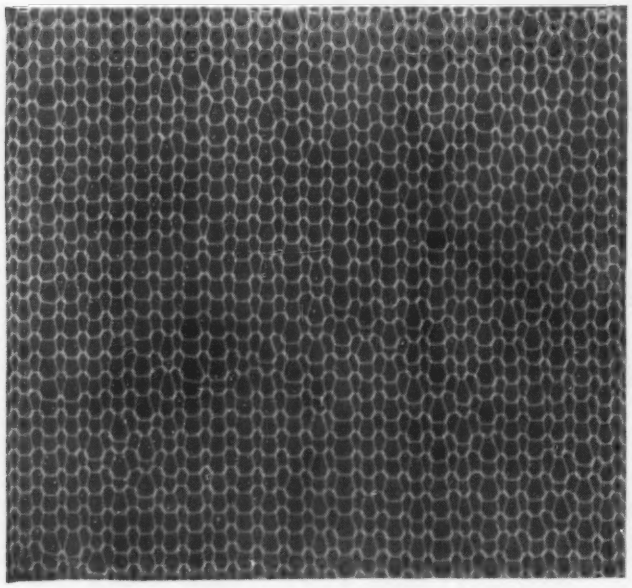
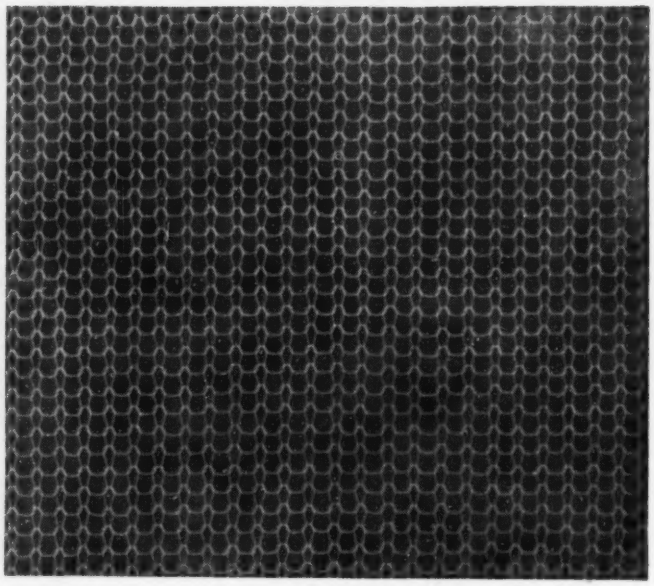


Here's fabric knit from conventionally treated yarn



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AATCC

ANNUAL MEETING

Chicago

CHICAGO was the scene of the 26th annual convention of American Association of Textile Chemists and Colorists. The annual meeting, jam-packed with technical sessions, was held at the Congress Hotel, October 23-25; the Mid-West Section sponsored and served as host.

Technical reports and addresses were of interest to all phases of AATCC membership, with information being disseminated to groups composed of men in the cellulosic fiber field, the non-cellulosic fibers, finishing, and auxiliaries. Other major groups benefiting from attendance were the fundamental research men, hosiery, testing, and those covering the field of general research.

In all, some thirty-odd papers were presented.

Professor Edward R. Schwarz of the Massachusetts Institute of Technology was awarded the coveted Olney Medal for outstanding achievement in the field of textile chemistry. Professor Schwarz is well known as a textile technologist, particularly for his contributions in the field of textile microscopy and textile testing.

Henry F. Hermann of General Dyestuff Corporation, president of the AATCC, was re-elected for the ensuing year. Vice-presidents C. Norris Rabold of Union Bleachery, Greenville, S. C., and John Dalton, Pacific Mills, Lawrence, Mass., were also selected to serve for next year.

Several suppliers to the chemical and colorist industry maintained booths at the convention, and special committees of the AATCC displayed technical and research exhibits depicting work accomplished or under way.

It was unofficially suggested by a member attending the meeting, that booths regularly maintained at the annual conventions of the AATCC also be transported to the various sectional meetings so that work of the association may become more widely known. It was explained that such displays, when accompanied by proper personnel, would acquaint the mills with progress being made and work performed by the standing committees. It was pointed out that only a portion of the entire membership is able to attend the annual convention, and heretofore the booths at the convention are the only place where equipment and results of work of the association's committees may be viewed.

In the intersectional contest, the Northern New England Section took first place. The Philadelphia and New York sections placed second and third, respectively, in the contest.

Technical papers presented were too numerous to be reported in one issue. Abstracts of selected papers, of interest to various phases of AATCC membership and the textile industry, are contained in this section.

Electrolytic Method for Stripping Color From Dyed Wool

Winning Paper in AATCC Intersectional Contest

Presented by Northern New England Section in Intersectional Contest

INVESTIGATION of the literature and examination of the periodic table show that chromium and vanadium are similar to titanium in that they too are multivalent elements. Their ions in the lower valence states are among the most powerful water-soluble reducing agents known. Thus, electrolytically prepared and regenerated titanous, chromous, or vanadous sulfate may be used with equal success as stripping agents for wool.

The following procedure is used to strip wool: The stock is introduced into the cathode chamber and stirred to insure uniform stripping. Easily stripped dyes, such as acid colors, require 5 to 20 minutes. Chrome colors may take from 20 minutes to 90 minutes. Indigo and vats usually require from 60 to 90 minutes. Dyestuffs which do not strip in 90 minutes will not strip by this process. The only dye so far encountered which will not strip at all is Alizarin Black WR.

For large scale commercial operation, the batch pot-type cell is inconvenient and impractical. Therefore, it was advisable to design a unit wherein the electrolytic cell pro-

ducing the stripping agent is entirely separated from the chamber where the wool is stripped. The stripping agent is made in an entirely different type of cell, is continuously pumped to the stripping chamber, and is then returned to the cell where the oxidized vanadous, chromous, or titanous ions are again reduced.

The apparatus consists of a "storage battery" plate-separator type of electrolytic cell, a pump to force the stripping solution from the cell to the stripping chamber, a reservoir for storing spent stripping agent which has been pumped from the stripping chamber and which will be returned to the cathode portions of the cell for regeneration, a reservoir for storing new unreduced stripping agent (in the oxidized condition) which is piped into the anodes and which eventually diffuses into the cathode area where it, too, is reduced. The wool is kept entirely separated from the cell, filters being provided to prevent any fiber from contaminating the cell.

The advantages of this electrolytic process are:

(1) Dyestuffs impossible or difficult to strip by present methods are successfully stripped.

(2) The "hand" of wool so stripped is substantially as soft and resilient as unstripped wool.

(3) Strength losses for woolen fabrics so stripped are under 8% for 20 minutes, under 10% for 40 minutes, and under 24% for 90 minutes. Increases in elongation up to 12% for 20 minutes, 32% for 40 minutes and 18% for 90 minutes are obtained.

(4) No objectionable residual odor is noted.

(5) Stripping is conducted below the boil.

(6) No pre-scouring is necessary.

(7) A constant level of reducing power is maintained throughout the duration of the strip.

(8) Within practical limits the reagent may be continuously and repeatedly used, thus maintaining a low cost.

(9) Samples so stripped may be satisfactorily redyed with light shades.

E. R. Schwarz
Olney Award Winner

Application of Chemical Controls to Acid Dyeing

Presented by Philadelphia Section in Intersectional Contest

MANY investigations have been carried on with the purpose of providing means of controlling dyeing operations. The principal means have been thermometric and chemical. Thermometric controls have been quite generally applied and studies in this field show the advantages of commencing the dyeing operation at temperature above 180°F. Therefore, temperature as a variable factor was not considered in this work.

The chemical methods of control are generally dependent upon the control of the pH of the dyebath. However, pH is not the only factor in dye absorption. Practically all previous work has been done from an equilibrium standpoint. Little or no work has been done, however, on studying control of the speed of dyeing continuously from the start to the end of the operation. What is happening during the dyeing operation is more important fundamentally than the exhaustion of the bath at the end. The use of chemical controls to regulate the rate of dyeing becomes very significant and is the ultimate purpose of this investigation.

For the experiments, standard weight skeins of 2/20-50's grade wool were prepared. Dyeings were made in baths containing distilled water in a liquor ratio 30 to 1.

In the experiments involving rates of dyeing, a closed dyebath was employed. The pH measurements were made using a glass electrode and dyebath concentrations were measured spectrophotometrically.

Numerous dyers when asked how they would like to control the rate of dyeing, replied that the ideal rate would be a uniform one, where the dye is absorbed at a constant rate. If 60 minutes were the operating time, for example, the rate would be 1.67% per minute. At this rate, the dyeing would be a straight line starting at 100% and extending toward zero % at 60 minutes, if the dye were completely absorbed. This arbitrary rate is chosen in this particular study; any other rate could be used and the same principles applied.

To see how this would operate, an easily controllable dyestuff, Azo Rhodine 6B was taken and a predetermined dyeing curve based on 100% absorption was made.

As the dyeing progressed, acid was added to keep the dyeing near the predetermined line. It was found that the equalizing dyes can be made to follow the predetermined line very accurately. The milling dye curve can also be made to follow the predetermined line very accurately after a time and is never far away from it. On the other hand, the dyeing curves at constant pH are far apart from the predetermined line and this is accentuated in the rate curves.

The noteworthy feature is that the pH curve of the equalizing dyes follows approximately a straight line as does that of the milling dye as soon as the dyeing curve reaches the predetermined line. Conversely, the pH curve should be made to follow approximately a straight line in order to obtain a uniform rate of dyeing. Thus the dyeing can be checked or controlled by pH instruments to insure uniformity of dyeing.

In the preceding experiments, numerous small additions of acid were necessary to keep the dyeings at a uniform rate. It would be much more convenient and practical if the proper acidity could be developed in the bath. Ammonium sulfate and ammonium acetate have been used near the neutral point where pH values close to 7.0 are needed. Their range is, however, very limited. To expand this range an investigation of numerous acid and acid-forming compounds was undertaken.

Chloral hydrate, one of the compounds showing a great change in pH was taken to illustrate the effect of its use in dyeing an equalizing color. Using four per cent of chloral hydrate, the dyeing curve remains close to the predetermined line up to 50% of the exhaustion, then exhausts more slowly up to a final exhaustion of

70%. This is a long range to be attempted by one chemical and a stronger acid or acid forming compound would be added at 50% exhaustion.

Using 4% malonamide with a milling type dye, the dyeing curve follows the predetermined line up to 57% exhaustion. From then on another compound would be added to continue the dyeing along the straight line as before.

These acid-forming compounds can be adjusted in their effect by changing the percentage used and various ones used to fit the type of dye. These two compounds have been chosen to illustrate the point and are not necessarily the most economical. The retarding effect of various acid-forming compounds vary considerably, and in some cases is quite noteworthy. The ones with the greatest retarding effect bring the dyeing curves reasonably close to the predetermined line, even at pH 6.6.

It is within the realm of possibility that products now being synthesized may permit a completely uniform rate from the start.

Booths were maintained at the Chicago meeting.

Weather Protective Treatments for Cotton Duck

Presented by Southeastern Section in Intersectional Contest

IT WAS DESIRED in the present investigation (1) to formulate a treatment capable of protecting cotton fabric against weather without adverse effect on the "hand" or finish of the cloth; (2) to test the various experimental formulations by exposure to actual weather; and (3) to collect data on the behavior of the finishes under artificial conditions of exposure that would be of value in the study of accelerated ageing of textiles.

A plainly woven army duck made of unsized yarns and weighing 10.6 ounces per square yard was selected as a fabric representative of the type used in out-of-door service and as not too heavy to show significant tendering of unprotected samples in the available time.

The finishes chosen fall into four groups: Clear resins alone; resin-bound pigments; pigments precipitated *in situ;* and pigments *in situ* after-treated with the clear resins. Methyl methacrylate resin was used in order to find out whether or not it imposed a physical barrier against biological attack. Oil-modified alkyd resin was selected for test because of its ready availability and its common use in industry as a binder for pigments. Urea-formaldehyde was chosen because in some previous work on its use as a pigment binder the incidental observation was made that this resin rendered the fabric more resistant to breakdown by radiation from a carbon arc.

"Textile Industries'" business manager and New York representative visit Foxboro booth.

The pigments used in the present investigation were selected either because of known light-protecting or fungicidal properties or because knowledge was desired of the protective action of colored pigments which would be compatible with the color of dyed fabrics.

Wherever possible, the treatments were applied from water solution or emulsion rather than from organic solvents. In all cases the concentrations of solids were adjusted to give 2 per cent take-up of pigments and 5 per cent take-up of resin on the dry weight of the cloth. All finishes were applied on a 2-bowl laboratory padder. A stainless steel laboratory jig was used where necessary for developing and washing finishes. Samples were dried to original width with heated air. For the curing of resin finishes a skein dryer was adapted to the purpose.

Exposures were made for 24 weeks in several locations from March 1 until August 15, both under controlled and uncontrolled conditions.

The resin-bound pigments appeared to offer better protection than treatments in the other groups, as evidenced, for example, by the use of urea-formaldehyde and lead chromate, either alone or in combination, on bleached duck.

Treated with urea-formaldehyde alone, the sample suffered a strength loss of 25 per cent after exposure; with lead chromate alone, precipitat-

ed *in situ*, it lost 19 per cent; with lead chromate *in situ* after-treated with urea-formaldehyde, it lost 6 per cent; and with lead chromate applied as a pigment bound with urea-formaldehyde resin, the sample suffered no loss at all in breaking strength.

The untreated gray and bleached controls lost 42 and 43 per cent, respectively, as averages from values obtained from samples at the four stations.

The different clear resins alone applied to the army duck exhibited different effects, with urea-formaldehyde offering considerably more protection against total weathering than the other two.

The oil-modified alkyd resin and the methyl methacrylate resin gave practically no protection by themselves.

Lead chromate and chromium oxide, which of themselves have excellent light-screening properties, when incorporated with resins showed the greatest protective effect. Manastral Fast Blue, not only protected the sample well, but permitted it to retain much of its color and appearance. Pigments selected for their fungicidal properties are at the bottom of the list—a fact which apparently bears out the observation of Borghorn that the more effective fungicides seem to catalyze photochemical degradation.

Comparison of the deterioration of samples exposed in the carbon arc with those exposed for 24 weeks to actual weather, showed no exact parallel relationship. However, those samples which failed badly in the arc exposures were also least resistant to weathering. Thus it may be that the carbon arc weathering machine, as modified for these experiments, will prove helpful in rating the ultraviolet-screening properties of experimental fabric finishes.

Effect of Electrical Charge in Applying Dyestuffs

Presented by Rhode Island Section in Intersectional Contest

AT THE OUTSET, this study was undertaken in an effort to determine whether the dyeing properties of soluble colors with a charged dye ion, or of vat pigment particles bearing an electrical change would be affected by applying electrical charge. As the work progressed, the results indicated that the chemical effects produced by the electric current were the most important. This led to broadening of the study in an effort to find the explanation of these results.

It became evident that electrophoresis played a very minor part, if any, in the effects produced. When electrical current did affect the dyeing properties, it was largely due to a change in pH caused by electrolysis of the dye bath in the vicinity of one of the electrodes. Furthermore, dispersing agents of the non-ionic, anionic, and cationic types had a very material effect, particularly with vat color pigments.

This survey included several hundred experiments on cotton and wool fibers, using numerous direct, acid, and vat colors. These experiments were carried out under varying conditions of electrical potential and current, temperature, pH; with several types and concentrations of electrolytes, and also with different types of dispersing agents.

From an analysis of the results obtained the following conclusions appear to be justified:

1. There is no evidence that the dyeing properties of any of the direct and acid colors studied were affected by any electrophoresis (faster migration of dye ions toward the fibers of opposite charge) at the electrical potential applied in this work.

2. The dyeing properties of many direct and acid colors can be materially affected by local changes of pH of the dye bath, caused by electrolysis resulting from the application of electrical current.

3. In the range of potential and current studied, there is no evidence that the pick-up of vat color pigments is appreciably affected by the action of electrical current on the charged pigment particles.

Two additional conclusions can be drawn which might be the basis of extensive commercial development.

4. Some cationic dispersing agents materially increased the pick-up of vat pigment particles. It is possible, thereby, to obtain practically complete exhaustion.

5. By varying the pH of a dispersion of vat color pigment, the pick-up can be controlled from a condition of practically no color pick-up, to one of practically complete exhaustion.

Studies in Soiling and Detergency

Presented by Piedmont Section in Intersectional Contest

THE PRIME purpose of this investigation was the development and study of a standard soil and its relationship to certain aspects of detergency evaluation.

Standard soils now in common usage all have some outstanding fault, which in a majority of cases outweighs the virtues of a particular solution of approximately 50 soils studied; one was selected for further experimentation. This soil has the following compositions:

2.0 %	Oildag
0.25%	Alkanol WXN
8.0 %	3F Fibre Spray Oil
89.75%	Stoddard Solvent

Samples of bleached, but not finished 64 x 64 sheeting, over-edged and desized, and measuring approximately 4½ x 4½ inches were prepared by padding the standard soil solution onto the fabric samples by means of a shallow stainless steel tray and two rubber rolls having approximately 117 pounds pressure across the nip.

Experiments made to determine the effect of sample area on soil removal indicated that sample sizes are not too critical, but individual samples should always come as close to a standard area as possible for best results.

A study of the influence of length of wash on soil removal showed that under the conditions of this part of the investigation, equilibrium is reached in the vicinity of 30 minutes as regards soil removal, whereas with the brightness increased and oil remaining, the peak seems to have been reached somewhere under 15 minutes.

The general trend of thought is that increasing temperatures will yield greater soil removal. Contrary to this, a study indicated that the reverse might be true. These findings show the necessity of evaluating a particular detergent at the temperature at which it is to be used in plant practice.

The experiments have shown that the type of soil, sample area, length of wash, washing temperature and type of fabric have a pronounced effect on removal of soil from fabric by any detergent. Therefore, the textile chemist should apply the temperature, time, water conditions, fabric, etc., a detergent is expected to meet in the mill in his method of evaluation.

Effect of Aqueous Chlorination on the Dyeing and Fastness Properties of Wool

Presented by New York Section in Intersectional Contest

INVESTIGATION of five different anti-felting treatments involving the aqueous chlorination of wool indicate that the fastness of washing of the dyeings is generally decreased by the treatments, the effect being less with those dyes which possess greater fastness on the untreated wool. No significant effect of the treatments on the light fastness of the dyes was observed. While the rate of dyeing is considerably influenced by these treatments, the final dyeing shows little difference in the case of acid, milling, metallized, chrome, and solubilized vat dyes, whereas in some cases marked differences were found with vat dyes.

Five pieces of flannel were individually treated by five representative methods of wet chlorination.

Dyeing tests with acid, milling, metallized, chrome, and solubilized vat dyes showed some of the treatments increased the rate of dyeing, and other treatments decreased the rate of dyeing. However, in most instances the treatments had little effect on the final dyeings. In view of this consistency of visual color value and shade, the dyer may use the same formula interchangeably on chlorinated and unchlorinated material, giving due consideration of the changes in the rates of exhaust. It should be noted, however, that some of the more sensitive dyes in these classes show distinct shade changes on some of the chlorinated materials.

Vat dyes do not show the same consistency of shade and strength. Since the chlorinated material in many cases dyes heavier than the unchlorinated, the dyer must use extreme caution when transferring his formulas. In the case of the vat dyes, the greatest increase in color yield is shown on those fabrics which showed the highest alkali solubility values.

Wash tests showed that those colors which are not fast on unchlorinated wool are much less fast on chlorinated wool and, therefore, are unsatisfactory. On the other hand, those colors that are fast on untreated material show only a slight loss, if any, on material chlorinated by either an acid or an alkaline chlorination.

Differences in light fastness of the chlorinated and unchlorinated dyed wool were slight and followed no particular pattern as to dye class of treatment. In the case of the solubilized vat dyes the interesting observation was made that while the untreated material had faded slightly yellowish and duller after 160 hours in the Fade-Ometer, all the chlorinated fabrics had become brighter and some even appeared slightly stronger in shade than before exposure.

Kie Guddis photos

Anionic Substantive Softeners

By Earle D. McLeod
Arnold Hoffman & Co., Inc.

DURING the past two or three years, much attention has been directed to atmospheric fading of acetate dyes. Anti-fume agents cannot be used with acidic materials, as they destroy their effectiveness against atmospheric fading. However, anionic products are compatible, and the series of potassium or sodium salts of fatty amides developed in this work are compatible. No change in shade of the dyed fabric is nbticed, and tests made show that the compound is not only substantive, but a useful adjunct to the anti-fume product, thus adding protection to the fabric.

In preparing a satisfactory solution of an anionic substantive softener, care should be taken to bring the bath to the boil. Normally, a concentrated stock solution containing 5%-10% softener is prepared, from which any desired strength may be made. Fabrics may be impregnated in the usual padder or in a dye-beck, where exhaustion is nearly complete.

In the dye-beck, very low concentrations may be used. When applied at the padder, approximately a 1% solution is necessary for adequate softening. Carry-over of salts from

the dyeing operation will precipitate the high molecular weight softeners; consequently, all cloths should be given a thorough wash before finishing, to insure best results. Anionic substantive softeners will not alter the final shade of dyed fabrics and will preserve the resistance to fading of the particular dye used.

Anionic softeners find use as pure finishes; as plasticizers for starches, resins and resin emulsions, such as polyvinyl acetate; as softeners in conjunction with anti-fume products; in general, where ultimate softness is required, along with light fastness. Where a soft drapy "hand" alone is required, these products may be used to replace sulfated tallow, under which circumstances, approximately 1 lb. of anionic softener will equal 10 lbs.-11 lbs. of 25% sulfated tallow. No appreciable bodying effect is obtained, however, and it is necessary to incorporate weighters along with the softener.

Application of Carboxy Methyl Cellulose to the Wet Processing of Textiles

Presented by Midwest Section in Intersectional Contest

THE PURPOSE of this paper is to discuss the value of sodium carboxy methyl cellulose, or CMC, as an aid in the wet-processing of textiles, and particularly as a detergent aid. CMC is formed by the reaction of monochloracetic acid and sodium cellulose. The product of each manufacturer has a characteristic substitution ratio which is determined by the uniformity of substitution and the manufacturing conditions.

The viscosity type is determined by the chain length of the cellulose molecule. This is controlled in the manufacturing process during the ageing of the sodium cellulose. CMC is usually made in four viscosity types: low, medium, high, and extra high. The absolute viscosity for each of these types varies among manufacturers. In working with CMC it is necessary to state the specifications of the CMC and carefully define the conditions under which it is used.

CMC has been recommended as a hydrophylic colloid, a stabilizer for suspensions, or an emulsifier for oil-in-water emulsions. It has been found useful as an adhesive, as a powerful thickening agent and for film forming applications. Of special importance in the textile field are the following possible uses:

(1) A detergent aid; (2) a thickener or viscosity stabilizer for printing pastes; (3) a sizing agent for warp sizing or for finishing purposes. It may be used as the free acid, insolubilized metal salt or as CMC; (4) as a modifier for corn starch and other sizes; (5) a thickener and viscosity regulator for latex and resin impregnating solutions; (6) a retardent for vat dyeing; (7) a lubricant for textile fibers; and (8) a stabilizing agent and viscosity regulator for oil-in-water dispersions.

Study of CMC as a Detergent Aid

Preliminary study of CMC produced frequent suggestions for its use as a detergent aid. As no actual investigation of this use for CMC was found in the literature it was decided to investigate this phase experimentally.

Cotton was used because it is one of the most difficult fibers to clean and because an easily reproducible soiled fabric can be prepared with it. Detergents were selected to represent most of the types of industrial importance in the detergency field.

The results obtained from a comparison of the ten detergents with 0%, 1%, and 10% CMC based on the active detergent indicate that CMC shows a high degree of efficiency in improving the detergent properties of synthetic detergents and soap. The mode of action is to improve the soil suspending properties of the system rather than to promote actual soil removal ability. In this respect it is superior to various other thickening agents proposed for the same purpose. The effort produced is more pronounced with the synthetics than with soap because of the inherently poorer suspending properties of the former.

The only detergent which showed no effect whatever from the CMC was a quaternary ammonium compound, which formed a precipitate with CMC even in the presence of 0.25% sodium carbonate. This compound is also the least effective detergent by itself and is very closely related to the cationic softeners used on textiles because of their durability towards washing.

Each type of detergent operation presents temperature, fiber, mechanical action and water conditions which are different. The conditions used in this work were selected to most closely approximate usual textile scouring practice. The magnitude of the building action of CMC must be determined, however, for each specific type of detergent system.

From a practical standpoint the cost of CMC must be at least compensated by the possible reductions in scouring time, the quantity of detergent used or the enhanced appearance of the fabric. These factors must be worked out in each application.

Silicones and Their Application to the Textile Industry

By F. L. Dennett
Dow Corning Corporation

SILICONES are different from any material found in nature or created synthetically. Their properties lie midway between those of such inorganic materials as quartz and glass and the many organic plastics. At present there are four quite distinct classes of silicone products: fluids; greases and compounds; resins and varnishes; and the silicone rubbers.

Electrical engineers state that silicone insulation has at least ten times the life and ten times the wet insulation resistance of the best class of electrical insulation previously known.

The development of silicone insulation was followed by the compounding of a group of greases from the silicone fluids. These greases have found a variety of industrial uses, in addition to solving the problem of lubricating anti-friction bearings operating at temperatures as high as 400°F. Comparative tests indicate that these greases have about ten times the life of special high temperature petroleum products.

One of the most interesting of the silicone compounds is a defoaming agent which has proved to be effective in a wide variety of aqueous systems, even during steam distillation or vacuum evaporation. This silicone compound should be useful in killing foams in textile sizings and finishes, printing pastes, adhesives and coatings.

Elastic silicone materials, commonly called silicone rubber, are water repellent, and weather resistant. Compounds recommended for fabricating gaskets have good resistance to a wide variety of chemicals. Other

stocks are used as coatings for fabrics in the production of gaskets, diaphragms, conveyor belts and electrical insulating tapes.

Long chain silicone polymers are produced as water white fluids in a wide range of viscosities and in several different types. Among the many industrial uses for these various silicone fluids, three are of special interest to textile chemists. First, the fact that silicone fluids are widely used as mold release agents for metal dies used in molding synthetic rubber and organic plastics, suggests that this lubricity toward plastic materials might be utilized for lubricating such thermoplastic fibers as Saran, nylon, Vinyon, and acetate rayon. Second, some of the silicone fluids have good lubricity under light to moderate loads and between certain combinations of metals. The third application and the one of greatest interest to textile chemists, is the use of various silicone fluids to impart water repellency to glass and ceramic surfaces, glass fabrics, and textiles.

Another and more recently developed use of the hydrophobic properties of the silicones, is in the treatment of glass fabrics. In this application a silicone oil emulsion is padded onto the glass fabric and cured for a short time at a high temperature. It makes the glass fabric thoroughly water repellent and gives it a soft hand, and excellent draping qualities.

A silicone product for making textiles water repellent is now in the early stages of commercial testing.

"Textile Industries'" eastern representative and editor visit committee booth.

This silicone fluid is reactive toward organic fibers and its hydrophobing properties are fully developed by heating for a short time at temperatures which may be applied to such fabrics as wool, rayon, nylon and cotton. It contains no harmful acids or alkalies and is not injurious to rubber or corrosive to metals. Experimental mill runs have shown that conventional equipment can be used.

A two to four per cent emulsion of the silicone fluid is applied to the fabric by padding and fixed by heating for 5 minutes at 300°F. This gives excellent water repellency to wools, rayons, nylons and cottons. This silicone treatment has very good resistance to dry cleaning and washing. It gives the fabric a soft and very slightly waxy hand.

Processing Quality Blended Fabrics

By Emory A. Richards
Lippitt Worsted Mills, Inc.

BLENDED fabrics referred to here will generally mean those containing wool in admixture with rayon, cotton, acetate, or nylon.

When blending viscose rayon with wool, the fiber should be completely delustered, approximately 1½" in staple length, and either 1½ or 3 denier in size, depending on the fabric to be manufactured.

In blending various kinds of fibers, the physical constants such as shape, outer structure, density, and staple length will affect the evenness of fiber distribution, the strength of yarn produced, and may cause all kinds of trouble during weaving and finishing. Little can be done later on to correct faults caused by uneven fiber distribution.

From the chemical side, the selective absorption of dyestuff by each kind of fiber, as well as of each individual lot used, should be determined. Variations existing in all types of fibers, either natural or synthetic, make it important to check each lot for its dye-index.

Formerly, it was felt that a dry combed top was essential for use in blended fabrics. However, it has been found that oil combed top can be used to better advantage. This may be due, in part, to the use of mineral oil blends instead of olive oil, and also the fact that most wool-top now used is not allowed to age.

The practice of using sighting colors for the identification of different blends of fibers is frequently the source of considerable trouble during wet-finishing and dyeing. Colors having no substantivity to either natural or synthetic fibers are ideal, and certain types of micro-powders fill this requirement; however, they lack tinctorial power and are very difficult to keep in suspension.

Acid colors are most widely used, but their affinity for wool is great and if subjected to moist heat such as steam, it becomes necessary to use stripping agents for complete removal.

The primary requisites for good scouring are:

1. A thorough knowledge of water conditions.
2. Machines large enough not to crowd the pieces.
3. Scouring agents meeting all requirements at hand.
4. Complete removal of scouring assistants.

In preparing blended fabrics for dyeing, the removal of sizing material has been a bothersome procedure until recently, when new developments in the sizing field have produced water-soluble sizes readily adaptable to blended fabrics. Complete removal can be accomplished by water at 120°F.-140°F., simultaneously with the scouring.

The two most commonly used methods for dyeing blended fabrics are the union and vat processes. Formerly, application of vat colors to blends was not practiced too extensively, but more lately new dyeing techniques have made this class of colors available for use on blends. Most dyers have used the union method because of the ease of application and the fact that there was no damaging effects on the fabric.

The use of automatic controls should be instituted as much as possible as these will eliminate the troublesome factor of human error.

The mechanical finishing of blends does not require too much handling. A clear smooth finish, devoid of any sheen is essential and can be accomplished by shearing or singeing, steaming, and in some cases a light pressing.

The introduction of semi-permanent chemical finishes applicable to blends of wool, rayon, and cotton has opened new fields for blended fabrics. Many advantages have been derived by the application of these finishes, some of these are: excellent water repellency, increased resistance to abrasion, shrinkage control in laundering and a semi-permanent crisp hand. Good styling, sharp clear colors and high quality are necessary to assure a continuous and increasing demand for blended fabrics.

Effect of Fiber Physical Differences Upon the Dyeing of Nylon Staple

By Dr. R. J. Thomas of the Dyestuffs Division, and Dr. B. F. Faris of the Nylon Division, E. I. du Pont de Nemours & Co., Inc.

ACID and direct dyestuffs may be applied to nylon from baths acidified with organic acids, e.g., acetic or formic acid, to yield colorations which withstand much more vigorous washing than the acetate dyeings. In many instances, these colors also show improved light fastness. However, under normal conditions of application to fabrics composed of continuous filament yarns, the use of acid and direct colors is attended with the hazard that variations in affinity may result in the formation of warp barre' effects and filling bars. Also, the acid colors are absorbed by nylon only in limited amounts.

In contradistinction to the dyeing of hosiery and fabrics composed of continuous filament yarn, goods composed of nylon staple yarns may be dyed with acid and direct colors without the danger of producing warp barre' effects and filling bars. The staple is well blended and thereby there is produced a statistical distribution of yarn segments wherein the presence of individual fibers of irregular affinity is not accentuated. In fact, complete masking of minor differences in dye absorption is obtained, and the over-all pattern is one of uniformly dyed yarn.

In several mill trials involving the dyeing of materials containing nylon staple, it appeared that the nylon could be dyed in heavier strengths than had been indicated to be possible by the early dyeing studies on continuous filament yarn. Preliminary laboratory tests confirmed that many acid dyestuffs were absorbed to a greater degree by nylon staple fiber than by continuous filament yarn of the same denier per filament. Therefore, the comparative affinity of textile-draw continuous filament, uncrimped and crimped staple-draw rope, and staple cut in various lengths, all prepared from delustered nylon filaments of four different deniers, was studied. Also, the comparative fastness properties of dyes on continuous filament nylon and nylon staple fiber were determined.

The results of these studies can be summarized as follows: Nylon staple has been found to exhibit greater receptivity for non-penetrating acid and direct dyestuffs than continuous filament yarn of the same denier per filament. The receptivity for non-penetrating dyes decreases as the denier per filament increases. On the other hand, penetrating dyestuffs exhibit relatively little variation in receptivity between staple and continuous filament nylon or among nylons of different denier per filament. In general, the receptivity of acid and direct dyes, both penetrating and non-penetrating, appears to be independent of the staple length.

The wash fastness of all of the acetate, acid, and direct dyestuffs examined, with one exception, is inferior on staple nylon yarns compared to continuous filament nylon yarns, but the light fastness is unaffected by fiber physical variations. However, nylon staple dyed with acid and direct dyestuffs is faster to washing than continuous filament nylon dyed with acetate colors. Because of this superiority in wash fastness, and in some cases in light fastness, the acid colors will be used for the dyeing of nylon staple fabrics in which minor variations in the affinity of the fiber may be expected to be masked completely.

During the convention, J. Robert Bonnar reviewed the endeavors, accomplishments, and plans of the association. He pointed out that the association, made up of some 5000 members, is entirely technical. There are 11 active research subcommittees composed of men who are employed by dyestuff manufacturers, chemical manufacturers, trade associations, testing laboratories, and textile processing plants.

On these committees there are 131 active and 86 cooperating members. During the past year these men have donated 19,340 hours of their companies' time and their own time on AATCC research activities. This same group ran 63,944 individual tests. The research committees have tackled problems covering light fastness, wash fastness, dimensional restorability, gas fading, flameproofing, and the like.

Mr. Bonnar further said that with a trend toward fast colors, the tremendous amount of use of brand names, and the apparently fast approaching obligatory fastness labeling, it can be well realized the confusion which would arise should not the standard test methods show approximately the same results as some arbitrary figures of 5, 10, and 20 home launderings, for instance, when thinking of wash fastness. This is the nature of the work which the AATCC is doing at a very small fraction of the cost which it would take each and every corporate member in his own laboratory to set up and get into proper form, and which even then would hold no water when talked about with cutters-up and consumer organizations.

Problems of Cotton Industry

Viewed by New England Manufacturers

Report of 93rd annual meeting of the National Association of Cotton Manufacturers.

Staff Report

TOP EXECUTIVES of New England's cotton textile industry met at the Sheraton Biltmore Hotel in Providence, R. I., on October 9-10, to discuss the problems that have confronted the industry since the war. The occasion for the meeting was the 93rd annual convention of the National Association of Cotton Manufacturers.

Retailers Blamed for Prices

In his annual report, Russell T. Fisher, president and secretary of the association, stated that the present prices of textiles are"largely due to bad judgment on the part of retail buyers who, last fall, postponed buying in the belief that textile markets were about to undergo a drastic shakeup.

"Following this as a policy," he continued, "they found they were unable to obtain goods in the quantities required from mills and had to turn to jobber buying, with consequent mark-ups."

Employment Figures Cited

Employment in New England cotton and rayon mills at present is 15 per cent above the 1937 level, according to Mr. Fisher, despite the decline in cotton spindles from 7,172,222 to 5,153,776 over the last decade. The expansion of multiple shift operation, he explained, has maintained employment and production at an even level. In the same period, he pointed out, hourly wage rates have moved up from 41.9 cents to $1.05.

Shortage of Staple Cotton

A table based on a U. S. Department of Agriculture survey was presented. It showed that the production of ordinary long staple cotton (1⅛" up to but not including 1⅜") decreased from 4.8 per cent of the total crop in 1928-29 to 2.9 per cent in 1946-47.

The committee warned that if this trend continues, the combed yarn fabric mills will be faced with a very serious problem of supply. It was brought out that not only would the mills be affected, but also our national defense, since a large part of the production of combed yarn and fabrics was utilized by the armed forces during the recent war. Establishment of a stockpile of these long staple cottons adequate for emergency requirements was recommended by the committee to those drafting future preparedness plans.

Election of Officers

Mr. Fisher was re-elected as president and secretary of the association. W. Emerson Barrett, treasurer of Maverick Mills, East Boston, Mass., and Lawton S. Brayton, assistant treasurer of Sagamore Manufacturing Co., Fall River, Mass., were elected vice-presidents.

Directors elected to serve for a period of three years were: C. F. Broughton, president of Wamsutta Mills, New Bedford, Mass.; Amory Coolidge, vice-president of Pepperell Manufacturing Co., Boston, Mass.; P. S. Howe, Jr., president of American Thread Co., New York, N. Y.; Harry S. Newcombe of Berkshire Fine Spinning Associates, Providence, R. I.; and Seabury Stanton, president and treasurer of Hathaway Mfg. Co., New Bedford, Mass.

A most interesting panel discussion, led by Professor Erwin H. Schell of the Business and Engineering Administration at Massachusetts Institute of Technology, constituted the second business session.

Industry-wide Publicity Plans

Outlining the goal of the Cotton Mills Industry-Wide Committee on Public Relations, Mrs. Mildred G. Barnwell Andrews reported that emphasis next year will be placed on the educational field, through the medium of: (1) a series of public relations radio forums during the school term for the ten leading textile schools, in which students will participate; (2) publication of an "up-to-the-minute reference book" which will be called the *Textile Almanac;* (3) a series of public relations seminars; (4) a traveling exhibit consisting of 75 pictures of people employed by the industry, both at work and at home; (5) post cards representative of the "entire industry but not identifiable as to locale."

Ward Delaney, president of the Institute of Textile Technology at Charlottesville, Va., speaking on the subject of research, told the delegates that "graduate education in the fields of science, pointing specially selected, unusual minds towards this industry, with specific training by highly qualified educators, is the most logical approach to research and looking ahead."

Cotton Improvement Program

Francis L. Gerdes, in charge of Stoneville (Miss.) Laboratory, Research and Testing Division of the U. S. Department of Agriculture, pointed out that research and breeding are pointing the way toward the development of varieties of cotton in demand by spinners. He also indicated that ginning research is paving the way toward production of cotton containing fewer "naps" and "neps."

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How OTHER MEN Manage

Comments on Life of Comber Half Laps

Question Briefed: *How long should a half lap last before re-needling, provided the laps come to the combers in good condition and the comber operators are efficient? A check on our Whitin D-2 combers for some three to four years shows that the average life of half laps is about 10 to 12 months. We are using a 436-grain lap, using 1 5/32-inch Middling cotton.* (CONTRIBUTOR No. 7974, *August*, 1947)

EDITOR TEXTILE INDUSTRIES:

CONTRIBUTOR No. 7974 does well enough if he can stretch the life of his half laps to some 10-12 months. If this is meant for a three shift run, it's exceptionally good. Fact is, I am rather inclined to ask him how he does it instead of offering advice of my own. Of course a 535 grain lap is considered to be of agreeable weight. Instead of turning this out in the form of advice, let's look at the elements that lengthen the life of half laps.

(1) Workmanship. Needles should be properly soldered—bars screwed down solidly and aligned with gauge. Keep needles from rusting.

(2) When inserting new half lap, screw securely so it will not come loose. The blind cover piece must also be checked for possible wear and tear. Brushes, if set too closely, may hurt the needles. A newly inserted half lap must be re-gauged to standard setting with plate.

(3) The feed roll must be properly adjusted so great lumps of cotton may not be drawn from underneath it. Enemy No. 1 is lumpy feed intake. For the same reason, the operator learns how to insert (piece up) a new cotton lap in such manner as not to let lumps run into segment. An even lap made in preceding processes is of paramount importance.

(4) Aspirator boxes not properly fitted coming into contact with the revolving half lap will, of course, ruin same.

(5) Keep individual stopping motions in proper working order so that a break-down will not increase damage by undue accumulation or lapping of cotton or waste.

(6) Aspirators, too, must be kept in good running order, as well as fans and fan belts. Seal aspirator boxes properly where in contact with aspirator drums in order to insure perfect suction.

(7) Straighten out occasional clusters of bad needles. Use pliers and, if necessary, some emery cloth.

(8) Teach operator to report needle damage when discovered.

(9) If more than two bars show damaged needles, it is best to replace the half lap with a new one. The reneedler will then only replace the damaged bars, leaving the good ones intact—but will have to regauge the full segment on his jigs.

(10) Keep spare half laps in a dry place, freely sprinkled with chalk powder.

All of this is simply of precautionary nature. A segment with two many and too fine needles is likely to break sooner than one with conventional needle count. It is a surprising fact that a segment with comparatively coarse needles will do just as good a combing job as one with exceptionally fine nee-

ATTENTION!!
$100 for Best Kink or Short-Cut
(Ends January 10, 1948)

The Winning entry for the kink contest that ended September 30 appears on page 135 of this issue. Other entries will follow and will be identified as participants in the contest.

ONE HUNDRED dollars will be awarded the contributor who furnishes the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea by January 10. The contest may be entered by any reader of this magazine, but the kink must not have been published elsewhere.

In sending in ideas, give complete description and where possible accompany description by sketch. Finished drawings are unnecessary. Participants are not restricted as to number of kinks submitted.

Only one award will be made, but non-winning contributions will be paid for at regular rates if used. Advise in original correspondence if participant's name may be used, or if contributor number is preferred.

All entries must be postmarked not later than midnight of January 10, 1948. Address: Editor "Textile Industries," 1020 Grant Building, Atlanta, Georgia.

For example of a kink, see item on preventing jerked-in filling on box looms, appearing on page 135, this issue.

dles, with this difference ,that the latter will break sooner.

We advocate the use of flat needles. We have had our top combs fitted out with flat needles for years, with exceptionally good results. Some European mills have long used flat needles for the segment also. It is obvious that if we use flat needles, more needles per inch will have the same space between each other than fewer needles of round wire. A flat needle is stronger on a revolving segment, and therefore (accidents barred) may last longer. Mills can do their own re-needling. A few jigs and tools in the hands of a skilled worker may constitute a saving in the long run.

CONTRIBUTOR No. 7995

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EDITOR TEXTILE INDUSTRIES:

With other conditions of proper settings and good cotton, it is possible for a comber half lap to last several years if it is never allowed to become wet.

We have 40 combers, giving a total of 240 half laps in operation, and we average replacing six half laps per month.

The type of cotton will also affect the length of life for half laps. We use 1⅛" cotton of Strict Middling, with a 563-grain lap and 47-grain sliver. Egyptian and Mississippi Delta cottons are worse on combers than any other varieties.

The setting of the nipper too close to the half lap will wear the latter out much quicker. A piece of wet cotton, or any gummy and sticky matter on the end of the nipper and cushion plate, will affect the setting. The closest setting that I recommend for the nipper and half lap is .027 of an inch.

CONTRIBUTOR No. 7986

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EDITOR TEXTILE INDUSTRIES:

Good laps will aid in prolonging the life of half laps on combers. As long as laps that are perfect are fed into a comber, the half lap should last indefinitely.

This long life also depends one hundred per cent on the comber tender keeping the machines clean and not allowing any choke ups.

Piecings are also important. If a new lap is not pieced properly, such as overlapping unevenly, the needles on the half lap will be torn out due to the excess stock.

Setting the half lap too close to the nipper will damage the former and cause the needles to come out much sooner. Another thing that will cause the needles to come out is when a low grade of solder is used to secure them to the half lap.

One year is a good average life for half laps using 1 5/32" cotton where a mill operates three shifts on combers.

AMATEUR PHOTOGRAPHERS ATTENTION!!

You can tell a story with your camera. It may be a hint on machinery maintenance — it may be a novel attachment applied to standard equipment—it may be a "kink," short cut, safety or human interest shot.

Pictures accepted for publication will be considered as editorial material, and payment will be made for them. Give your name and address and enough information for a suitable caption.

Address: "Snapshot" Editor, "Textile Industries," 1020 Grant Building, Atlanta 3, Ga.

We use the Whitin Model "E" comber with a good 600-grain lap and 54-grain sliver. During the past year we used a total of 96 new half laps to replace defective ones on 18 combers with 6 deliveries each, which is a total of 108 half laps in operation.

CONTRIBUTOR No. 7985

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EDITOR TEXTILE INDUSTRIES:

The records in this plant show that half laps for combers last on an average of from one to one and a half years. Of course, this will vary at other mills due to different types of tenders and the settings of nipper and half lap.

We use 1 7/32" cotton, producing a 485-grain lap and 50-51 grain sliver. The speed of the comber is 118-120 nips per minute.

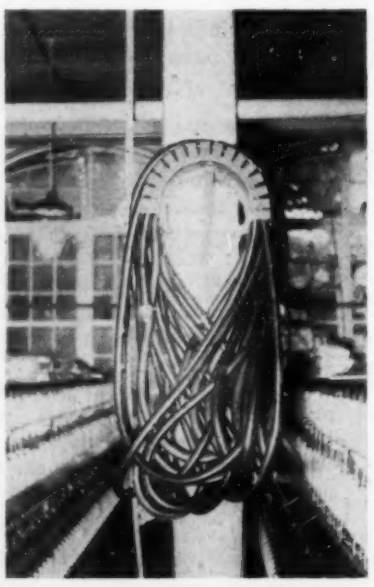
We also use the Whitin D-2 comber, but there does not seem to be enough information from CONTRIBUTOR No. 7974 in regard to settings of the nipper and half lap for me to give the most helpful answer to the inquiry.

CONTRIBUTOR No. 7987

Metal Air Hose Rack

EDITOR TEXTILE INDUSTRIES:

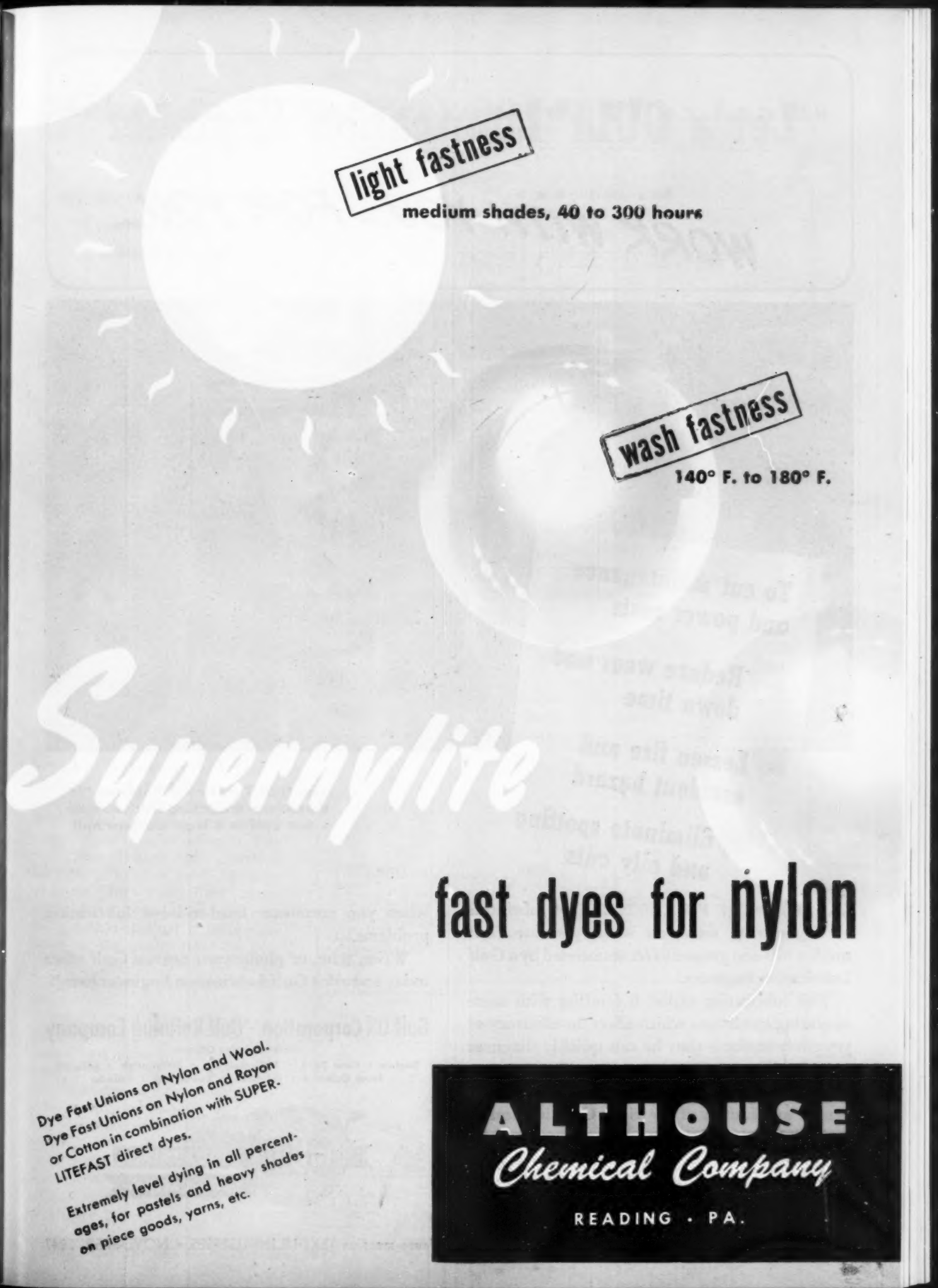
Your readers may be interested to know about a storage rack for air hose which has been installed in our plant. A minimum of material and labor is required to make the rack, which provides convenient storage for idle hose. It should last indefinitely.



The storage rack is made of a thin piece of metal which is bent to form a half moon. A support is fastened to each side, and one in the middle. These supports are attached to a pillar, or post, which serves as a good location at the proper height. The outer edge of the rack is equipped with flared metal strips, about one inch wide and 4 to 5 inches high, depending on the size of the hose to be stowed. These metal strips may be welded, screwed, or otherwise fastened to the curved metal base on which the layers of hose are placed.

The accompanying illustration shows the rack with the air hose on it.

CONTRIBUTOR No. 8010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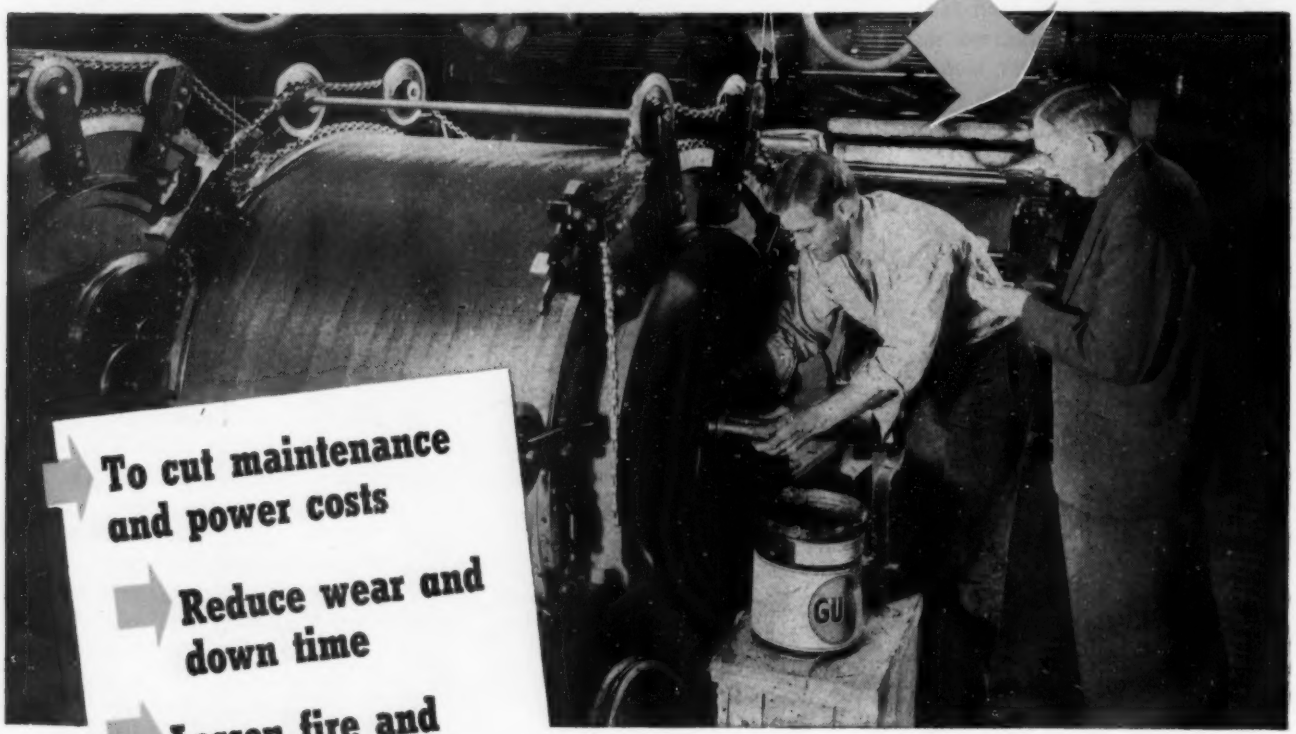
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GULF INDUSTRIAL LUBRICATION

Jerked-in Filling Prevented on Box Looms

By OSBERT HUGHES
Winning Entry in
Kink Contest

The award for the "kink" contest as announced in the August and September issues was won by Osbert Hughes of Fieldcrest Mills.
Another contest begins this month. For rules, see page 131 of this issue.

WEAVING multiple color patterns on 4x1 drop-box looms can be troublesome because the filling from the idle shuttles is often jerked-in by the running shuttle. When the filling is jerked into the body of the cloth in this fashion, poor cloth or seconds result due to bad pick-outs, bad start-ups, etc. Production losses usually accompany stoppages caused by this trouble. Jerked-in filling occurs when weaving many fabrics on drop-box looms, especially on goods woven narrower than the full capacity of the loom.

The device shown in the accompanying illustrations is offered as a solution to the problem as it was solved in a large mill. Figure 1 shows a top view of the arrangement which consists essentially of three wires fastened to a swivel mounted on the breastbeam. The wires pass through holes provided for them in the reed. Various methods for controlling these wires have been tried, however the simplest method is to operate them on the dobby head by pegging the pattern chain for them. They may also be operated by the box-motion.

The different filling threads can be controlled by these wires as shown in Figure 1. The arrangement shown is for four boxes, but modifications can be made to operate a smaller number of boxes. The wires are raised or lowered to prevent the idle filling threads from being jerked-in by the moving shuttle. The four possible positions for these wires are shown in Figure 2.

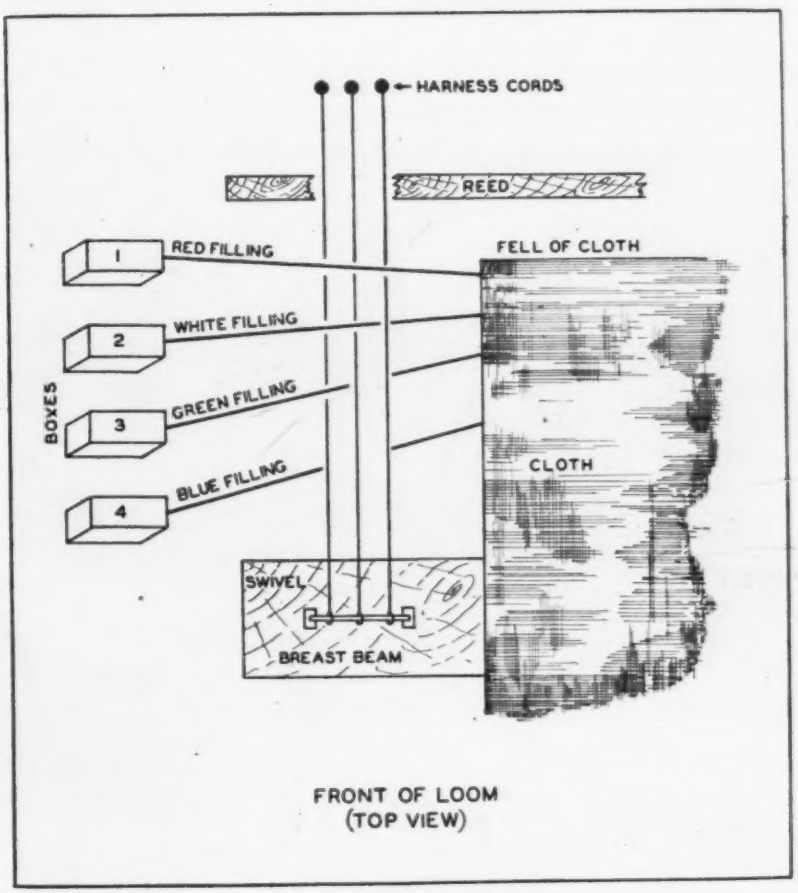
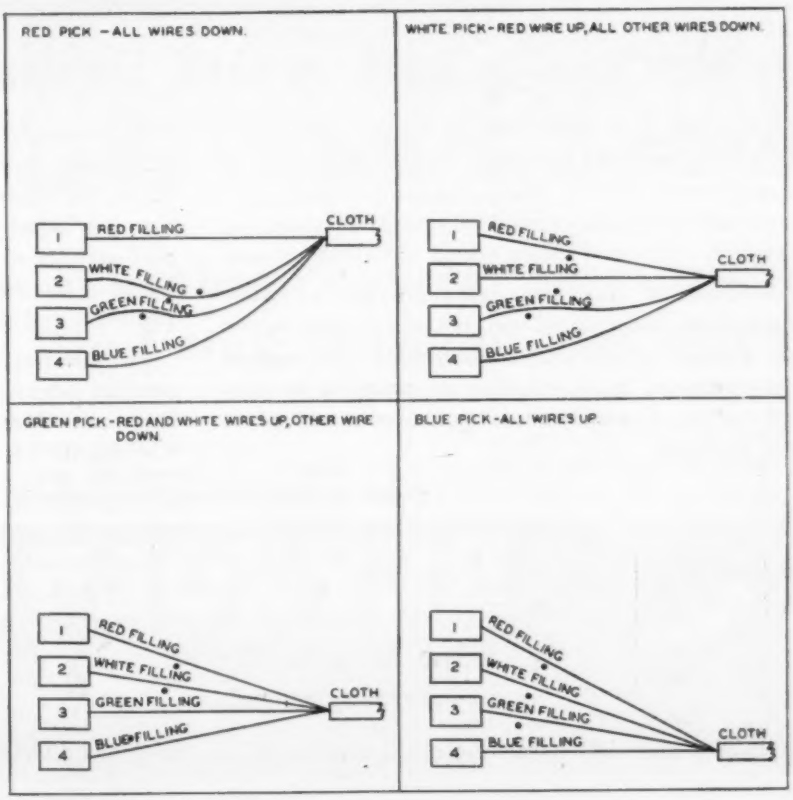
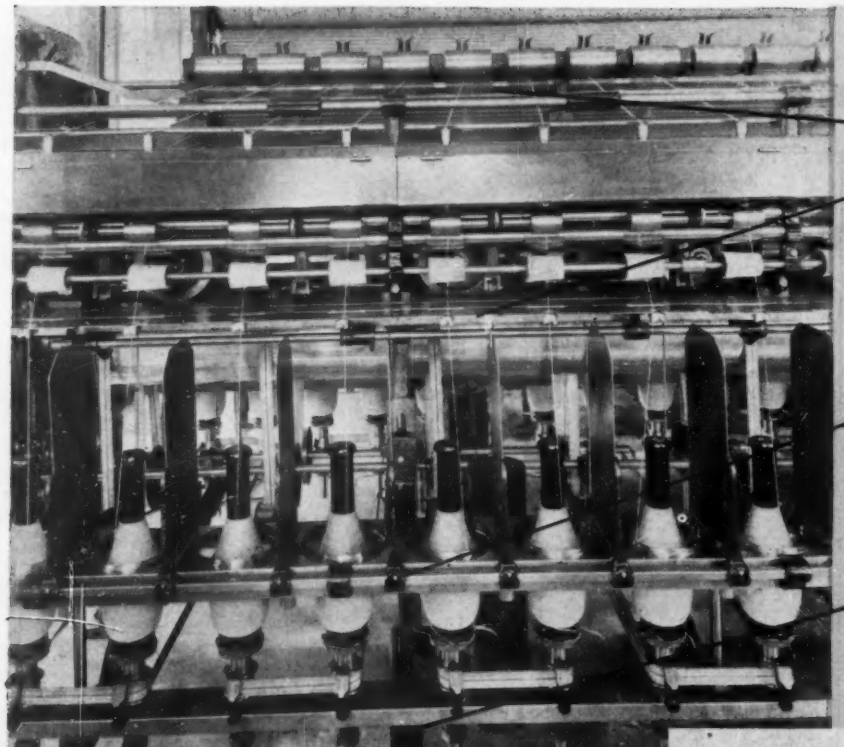
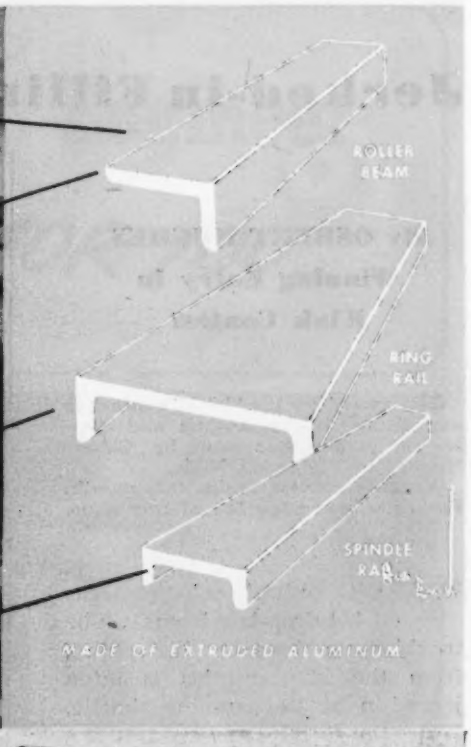
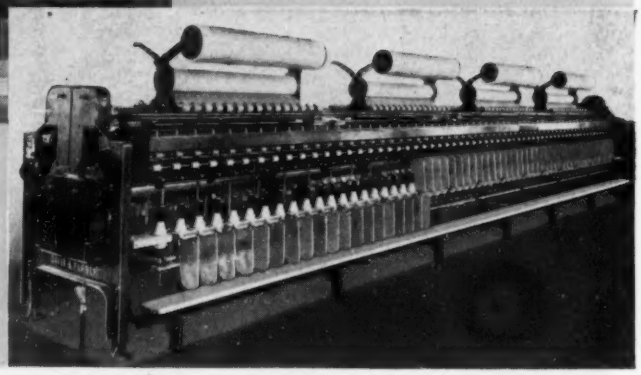


Fig. 1 above. Fig. 2, below.









DAVIS & FURBER

puts aluminum to work in their Simplex wool spinning frame

HEAT-TREATED Reynolds Aluminum extrusions were put to work by the Davis & Furber Machine Company, North Andover, Mass., reducing weight, maintenance and costs. In this new wool spinning frame, ring rails, spindle rails and roller beams are all-aluminum.

Conversion of steel and cast-iron rails to high-strength aluminum reduced weights by over two thirds. Costly machining was all but eliminated. The natural bright aluminum finish requires no painting or protective coating. It will not rust, so maintenance cost is greatly reduced.

Light weight with high strength, less machining, no distortion, freedom from corrosion, smooth natural finish, no staining of yarns from moisture condensation on metal—these advantages of aluminum mean real savings to you. A Reynolds textile engineer will be glad to discuss aluminum as it applies to your products and problems.

For further information, write our nearest field service office, or Industrial Machinery Division, Reynolds Metals Company, 310 Hanna Building, Cleveland 15, Ohio.

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Questions on Centralized Maintenance

EDITOR TEXTILE INDUSTRIES:

In past issues of your magazine, there have appeared discussions of maintenance systems wherein the departmental supervisor is not responsible for maintenance of productive equipment; this job is left to the superintendent of maintenance and a crew of specialists.

Inasmuch as this system has obviously been fruitful in large organizations, we are interested in applying it to a plant which is considered average in size, or perhaps even small.

For the purpose of identification in this letter, we shall term the new system of maintenance "specialized maintenance." If your readers can assist us by answering the following questions, it will enable us to decide whether the specialized maintenance program can be employed in our plant.

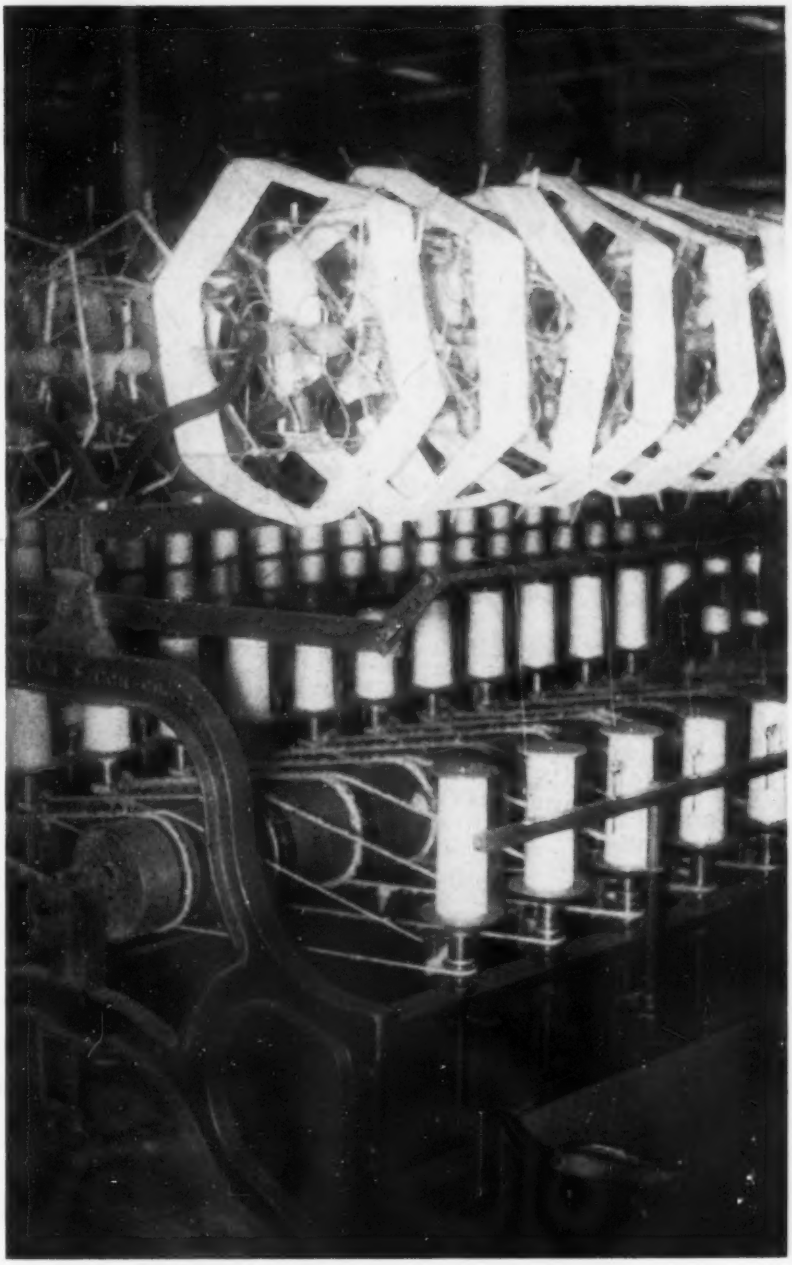
1. With the specialized maintenance system there appears to be a superintendent of maintenance and his assistants for the various departments. How does this affect the force of regular supervisory personnel? Is the regular force reduced so that the total supervisory staff for production and maintenance remains approximately the same?

2. Where there are maintenance specialists for the various motions of the looms, such as a let-off man, pick motion man, etc., how does the total number of flag men and specialists compare with the number of loom fixers formerly employed?

3. Where seconds are being made in the weave room, or where filling waste is too high, or where picker laps are uneven, or where the percentage of flat strips is too high, who is responsible—the departmental supervisor or the maintenance specialist?

The principle of specialized maintenance appears to be sound, but we need further information before applying it to our plant.

CONTRIBUTOR No. 7983



Winding Capacity Increased by Using Obsolete Machines

EDITOR TEXTILE INDUSTRIES:

For the benefit of readers who do not have adequate facilities for rewinding skein yarn, we would like to offer the following arrangement for consideration.

We have resorted to the use of old spinning frames and old twisters for rewinding purposes. The obsolete machines have been found to serve the purpose well, with few alterations required.

The creel should be removed, and arrangements incorporated to handle skeins. It is possible to make changes on the cylinder drum and lower part of the machine, to accommodate the type of spindle that is needed for winding the yarn on spools or bobbins.

One of our "home-made" backwinders is shown in the illustration above.

CONTRIBUTOR No. 8002

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Crayon Marks On Finished Goods

Subject Briefed: *Chalk marks do not scour out in the finishing processes, so they show up in the finished fabrics, especially when dyed lighter shades. How is the chalk or crayon removed in finishing? Is there a chalk or crayon that will give no trouble?* (CONTRIBUTOR No. 7976, *October* 1947)

EDITOR TEXTILE INDUSTRIES:

Relative to CONTRIBUTOR No. 7976's question on textile crayon; years ago we ran into this same trouble. On the advice of a friend in a bleachery, we changed to a different type crayon. Even with this crayon, we do not buy the darker shades. We stick to the lighter shades and have eliminated our troubles.

CONTRIBUTOR No. 7979

◆

EDITOR TEXTILE INDUSTRIES:

We ran into the same trouble with chalk as did CONTRIBUTOR No. 7976. The one sure way to correct this trouble is to specify chalks made with fugitive colors. They are slightly more expensive than the common pigment colored chalks.

Further measures suggested are:

(1) Don't use oil base crayon for marking yarn.

(2) Don't mark bobbins while spindles are in motion.

(3) Use light touch in marking, placing very small mark on each bobbin.

(4) Place all marks on bobbin taper, not on straight side. This distributes chalk over greater yarn length.

CONTRIBUTOR No. 7980

◆

EDITOR TEXTILE INDUSTRIES:

Some few months ago we had trouble with our crayon marks showing up in our whites and pastel shades. Our white knit goods are given a pre-bleach with sodium peroxide and finished with a chlorine bleach, and the pastel shades are given a half-bleach with peroxide. Even with this treatment the crayon was showing up in the

finished goods. A check in the mill revealed that our men were wetting the chalk before applying it to keep it from dusting. Any chalk applied wet is very difficult to remove in the finishing operation, so we discontinued this practice and our trouble cleared up.

We have found that it is very important to use the right kind of chalk, as some will bleach out while others will not.

One company furnishes a color chart on which are marked those colors which will bleach out. We use only the recommended colors and are having no trouble.

CONTRIBUTOR No. 7984

◆

EDITOR TEXTILE INDUSTRIES:

For many years we have been using one manufacturer's crayons. These crayons can be purchased from most any textile mill supply house. We had a great deal of trouble until we standardized on the present brand.

Let me add that the very best crayon manufactured will not scour out of goods if the operators let the chalk come in contact with oil.

CONTRIBUTOR No. 7982

◆

EDITOR TEXTILE INDUSTRIES:

We have had trouble with chalk marks, and occasionally a batch of crayon will not wash out. We make every effort to use the lightest shades of crayon and this seems to make the trouble less damaging.

CONTRIBUTOR No. 7978

Belt Length Calculations

EDITOR TEXTILE INDUSTRIES:

For stocktaking purposes, and at many other times also, it may be necessary to find the length of a belt in roll form. A formula which I have found extremely useful in this connection is as follows:

$(D+d) \times \text{Number of Coils} \times 0.1309 = \text{Length in feet.}$

Where D=diameter (in inches) of roll of belting
d=diameter (in inches) of the space in the center of the roll

This kink is a real time saver.

CONTRIBUTOR No. 7912

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Scouring Fluted Rolls

Question Briefed: *How do others handle scouring of steel rolls? How many men are in the crew? Is this a special crew which works at specific times? How often are the rolls scoured?* (CONTRIBUTOR No. 7789, *September* 1946.)

EDITOR TEXTILE INDUSTRIES:

For cleaning fluted rolls we have a special team composed of several operatives. This team cleans the fluted rolls, but it is used also from time to time for cleaning the whole machine.

Cleaning of the flutes is done at regular intervals which are controlled by the overseer and which depend on the daily running of the machine, the type of machine, and the quality of cotton being worked. For example, when working with staple fiber, the machine is cleaned much more often than when working with short fiber cotton.

With regard to the rolls on the fly frames, the fluted rolls are removed completely from the machines and put on tables with special supports; the parts are carefully cleaned. One man removes with a small hook the fibers that are wrapped around the rolls; the flutes are cleaned with a piece of used card clothing. If one notices that the flutes are rough or uneven, they are rubbed with pumice and finally finished carefully with Spanish white. They are then carefully replaced in the bearings, which have already been carefully cleaned and oiled.

For the spinning frames, one proceeds in the same manner, but the rolls are left in the machine itself. Generally, it is not necessary to clean these with the card clothing or with the pumice.

CONTRIBUTOR No. 7989
(France)

Question On Lumpy Yarn

EDITOR TEXTILE INDUSTRIES:

We take drawing frame waste, roving frame waste, and underclearer waste from spinning frames and run it through a waste grinder, followed by dyeing. A mix is then prepared consisting of 80% dyed 15/16" Strict Low Middling cotton and 20% of the dyed waste.

The machinery layout consists of one-process picking (3 beaters to each picker); carding 10 lbs. per hour and producing a 52-grain sliver; 2 drawing processes, delivering a 60-grain sliver, metallic rolls, the back and front rolls being 1⅜" in diameter.

The slubber produces a .52-hank roving, the intermediate 1.30-hank roving, and the speeder 3.60-4.00-hank, depending on the number of yarn to be made.

Spinning is conventional draft, and the dyed yarn is used in the weaving and knitting trades.

We are having trouble with lumpy places or slubs in the yarn. Any information that your readers might have to assist in correcting this situation will be greatly appreciated.

CONTRIBUTOR No. 7950

Rotate Sliver Cans Counter-Clockwise

Subject Briefed: *Which is the best way to put sliver in a can from a card and from a drawing frame, clock-wise or counter-clockwise?* (CONTRIBUTOR No. 7786, *September* 1946.)

EDITOR TEXTILE INDUSTRIES:

It has been proved through experimentation that a can that is run counter-clockwise and at a slower speed than the standard speed will hold more sliver than a can running clockwise and at the standard speed.

CONTRIBUTOR No. 7977

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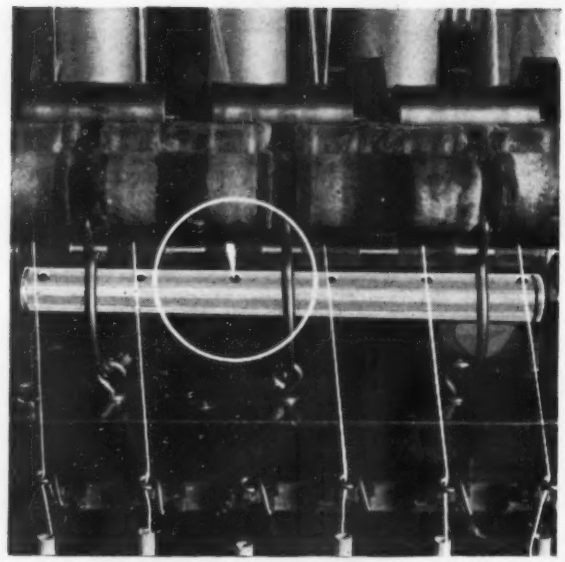

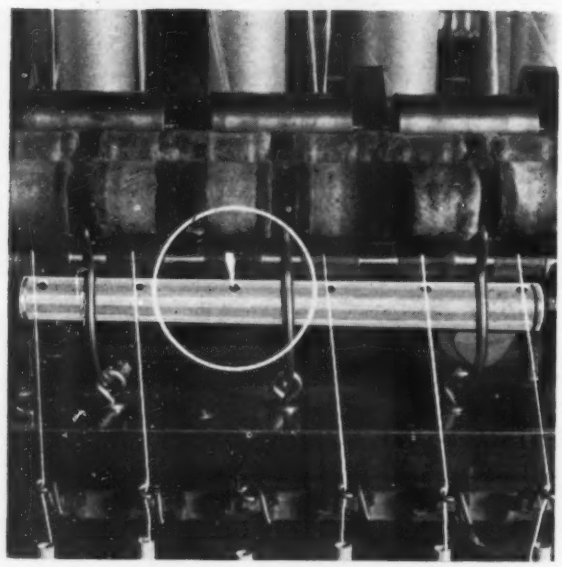

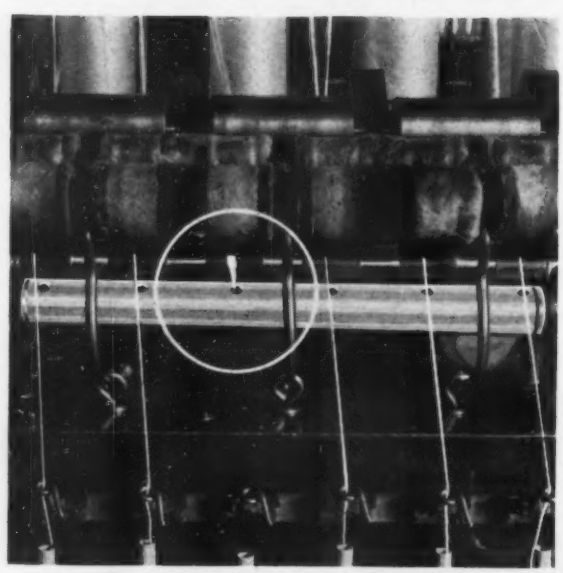

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More Comments On Lubrication

A request for information on simplification of lubrication procedure (January 1947) has stimulated considerable discussion. This presentation refers to an article by R. G. Shepherd that appeared in the July (1947) issue of Textile Industries.

EDITOR TEXTILE INDUSTRIES:

I was very much interested in the article, "Textile Mill Lubrication Being Studied," which appeared in "How Other Men Manage," in the July (1947) issue of TEXTILE INDUSTRIES.

I was once secondhand in a department which included about thirty old model Lazenby filling winders, practically every bearing of which required oiling at least once a day. An old gentleman was oiling, and we could easily follow him on his round every morning, for he left a trail of oil on the floor, as well as on the machines. Yet, in spite of the amount of oil that the machines *seemed* to be getting, we were constantly having bearing troubles.

One week end—we were probably running about four days a week—the foreman of the department had the writer to take a small hook and to *personally* clean out all of the oil holes on the filling winders. The reader can be very sure that after this experience we saw to it that the oil went into the *bearings*, and not all over the machines or the floor.

A lot of progress has been made since those days, and we are glad to note the work that is being done in the study of textile mill lubrication as reported by R. G. Shepherd.

Although we agree with most of Mr. Shepherd's suggestions, we are wondering if he isn't a bit too critical of the purchasing agent. The purchasing agent works under a tremendous amount of pressure from the mill management and the stockholders. In some cases he is allowed a budget, and he is expected to stay within this allowance. At the same time he is expected to keep sufficient supplies, lubricants, etc., to maintain the machinery in first class operating condition. In any case, he wants to make a good showing when the books are balanced at the end of the fiscal year.

He is under pressure from the various department heads, to buy the very best in the way of lubricants and supplies, and to keep enough supplies, on hand at all times so that no machine has to be shut down for lack of parts or other supplies. Though the overseers have an interest in keeping down costs, they do not see the actual checks going out to the various suppliers, so they cannot realize, as does the purchasing agent, how these things can run into real money.

The purchasing agent is under pressure from the various salesmen who call upon him by the dozen every day. He cannot possibly be an expert in every operation of the mill or mills for which he buys, and while some of the salesmen are just glib talkers, many of them are *sales engineers* and are experts in their field.

We agree with Mr. Shepherd, that the purchasing agent should be furnished with more information from the salesman than just brand names. He should be told what the oil contains, what it will do, and what it will *not* do. The mill should furnish him with complete data on all lubricant requirements, possibly following a survey, as suggested by Mr. Shepherd. If this is done, we see no reason why the purchasing agent cannot save a little here or there.

CONTRIBUTOR No. 7991

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GET THE FACTS, ask your local distributor for an instructive demonstration.
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Lint and fly do not get a chance to be spun into the yarn. They are shooed away.

Hand cleaning, done as often or as regularly, might be better. But what spinner would want to fan a frame (not to mention five or six) fifteen or twenty times an hour? Or who would want her to?

ParksTurbo Traveling Cleaners take the drudgery out of spinners' work—and earn their keep besides.

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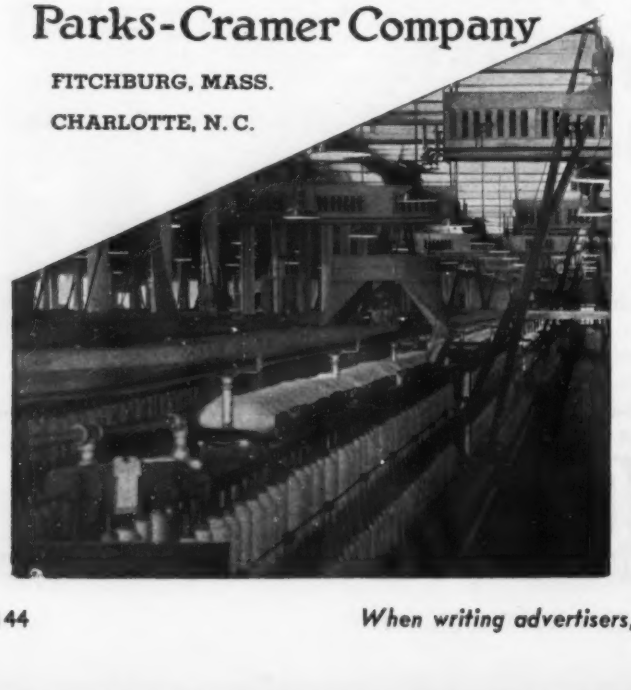

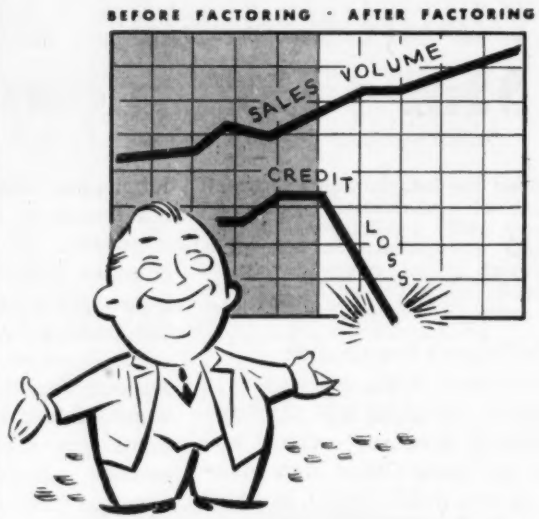

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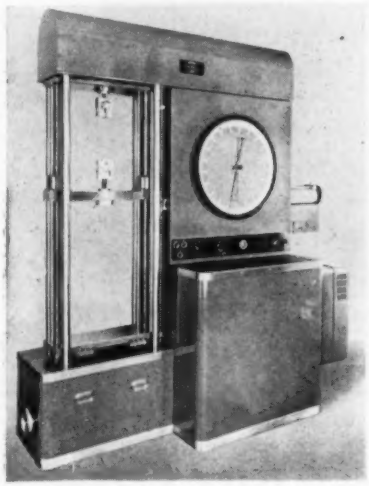
Men interested in testing, from government and private industry, viewed recently the first demonstration of a new type of Baldwin-Tate-Emery testing machine at the plant of the A. H. Emery Co., Stamford, Conn. Distinguishing features of the machine are its continuously variable 400:1 positive speed range, great horizontal



rigidity; elimination of backlash; and high accuracy in lowest ranges. Maximum capacity is 5,000 pounds.

The machine uses a mechanical screw system. Speed of loading is steplessly variable from 0.05-inch to 20 inches per minute. The specimen is pulled, compressed, or flexed at the short lever end.

Synthetic Wax

A new synthetic, self-emulsifiable wax has been developed by the textile chemicals division of the American Viscose Corporation. The new wax, named "Avcolube" 100, is said to have unusual lubricating, softening, and anti-static properties for all textile fibers. It is suggested as a finish for dyed viscose and acetate rayon, cotton, wool, nylon, and other yarns to increase winding efficiency and to reduce static, especially those of fine denier and low twist. It is claimed to be an effective anti-static agent for fabrics woven from these yarns as well as a lubricant for dyed knitting yarns, both filament and staple, to increase knitting efficiency and provide more uniform stitch formation. It may be added to the dyed goods at the end of the dyeing operation and no further lubrication is necessary.

Corrosive Fluid Pump

Incorporating a number of refinements in design to meet needs suggested by industrial users of pumps handling acids and caustics, Peerless Pump Division, Food Machinery Corporation, has developed a new centrifugal pump, designated as Type ACO, to help reduce costs of pumping corrosive fluids through ease of handling, prevention of corrosion to pump parts, and lower unit maintenance.

A prime improvement in the Type ACO design is the integral casting of the pump volute and the drip pocket; any acid or caustic solution which leaks through the stuffing box, drips onto material capable of withstanding the corrosive qualities of the fluid. Further, a large inboard end cap of special alloy is utilized to prevent any of the liquid being handled finding its way past the special overhung water slinger into the bearing housing.

In addition, the conventional screw type fitting in the drip pocket has been replaced by flange and two bolts which can be made of stainless steel, obviating difficulty in disconnecting drain for replacement or maintenance.

Tesco Products

Tesco Chemicals, Inc., Atlanta 2, Ga., have announced several products of interest to the industry.

Of interest to mill owners who do not have flexible equipment for office and plant use, is the Toadroy floor machine. This machine has been designed to fill the need for lightweight scrubbing and polishing.

Velsicol 1068 is an insecticide which is said to be effective in roach control. The roach problem is manifested in many mills where starches and dextrins are stored. This product is offered as a solution.

Floor-Pow is a product that was developed specifically for the maintenance of finished and unfinished hardwood floors. According to the manufacturers, it is not highly caustic, removes oil and grease, and insures free rinsing.

Blot is a development in oil absorbents, said to be outstanding in its

Is Down Time a pain in your neck?

Thousands of RunRite Plastic Sheaves have been running continuously, in many plants, for over six years, and still going perfectly. Under similar conditions they should do equally as well for you. Figure your savings in reduced down time alone. Then, bear in mind, that RunRites' smooth, perfectly balanced strap surface means longer life to harness straps. Once installed, they need no further attention for years of dependable service.

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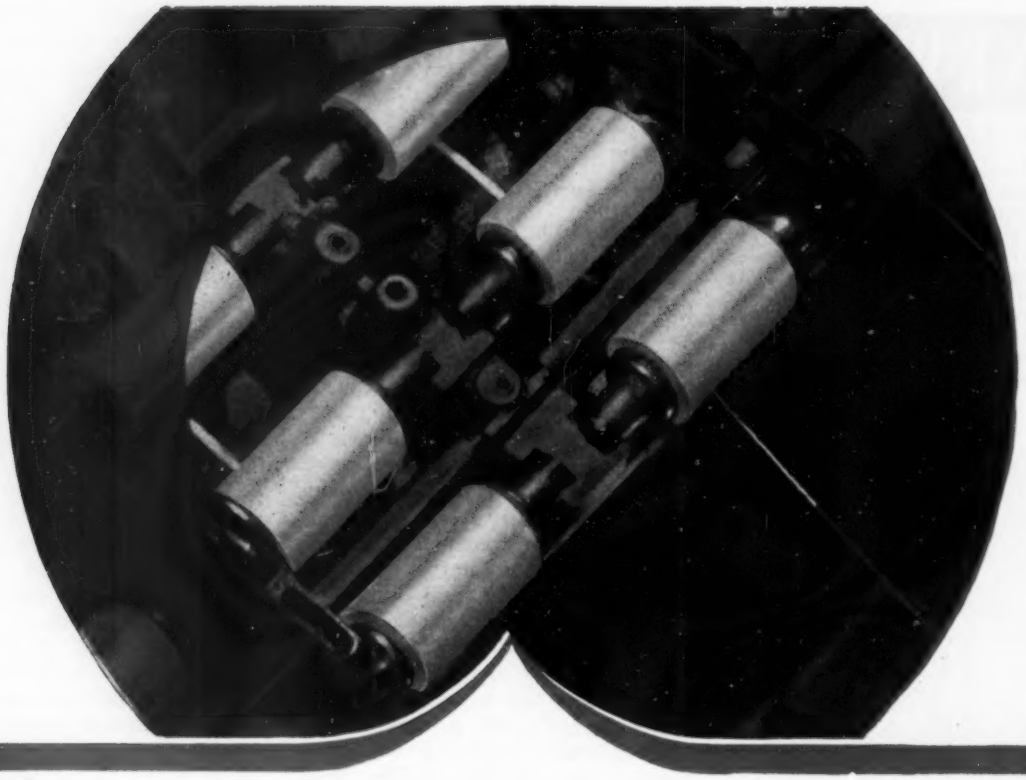

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1. Large reduction of ends down.
2. More foreign elements removed from yarn.
3. Specially compounded for uniform wear, lengthening service life.
4. Equally effective for special types of synthetic and synthetic blends of yarn.
5. Not affected by temperature changes.
6. Oil resisting and static free.
7. No grooving—less ends down.
8. Easy to apply.

Whether your frames are equipped with flat clearers or revolving clearers, there is a specially engineered Dayco Roll Covering designed to give you greater uniformity of yarn, increased production with lowered costs.

Dayco Roll Coverings do this because they have ideal cushion, exactly the right coefficient of friction and are unaffected by humidity changes or temperature extremes throughout an exceedingly long life. Their surface is so tough that it never grooves, hollows out, flattens or distorts. Since Daycos are static free, lapping up is practically unknown.

Daycos lower your costs, too, because accurate accounting records have proved that the cost-per-hour of operation with Dayco Roll Coverings is definitely less.

Check the eight advantages listed at the left which you get with Dayco Roll Coverings. Then let us demonstrate how these specially engineered cots can help you raise both your quality standards and your production curve. Write today for complete information.

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Factory: Waynesville, N. C.

Dayton Rubber
THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

ability to pick up undesirable oil and water from floors and other surfaces.

New Axiflo Fans

A new line of axial flow pressure fans has been announced by the Sturtevant Division of the Westinghouse Electric Corporation.

Two basic types of these Axiflo fans are available: the straight-through type or the convertible elbow type, both furnished with either the three-bladed aluminum alloy wheel or eight-bladed steel wheel. Applications for these fans include: air conditioning, dust and fume removal, machinery cooling, mechanical draft for combustion, industrial drying and processing.

Designed for either vertical or horizontal operation, they are said to have high mechanical and static efficiency combined with large volumetric capacity to perform effectively against resistance of wind and duct systems.

Endless Check Straps

The Chas. A. Schieren Company has developed a new type of check-strap which is suitable for use on Draper looms and is said to be particularly successful when used on the higher speed looms.

The new endless Duxbak check straps are made from first quality, pre-stretched oak belting leather. At both ends where the picker stick strikes, extra reinforcing pieces of the same quality leather are inserted to absorb the shock of the picker and further prolong the life of the check strap.

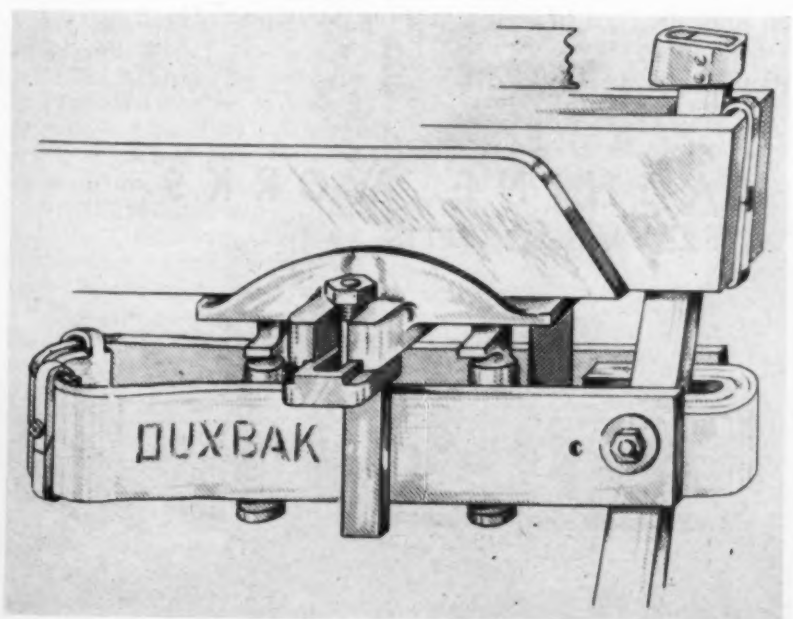
The straps are mounted on the looms, using three fingered friction brackets, which are obtainable from the Draper Corporation, if not already on hand.

Once the strap is inserted in the necessary friction brackets (one each side of strap), it is only necessary to adjust the center friction leg on either side to a light pressure, permitting the strap to slide freely in its holders, according to the manufacturers. Actually the strap floats in the friction bracket and much of the checking is through absorption of the stick's energy by the use of the floating check. Pressure on the friction legs should be equal on both sides, in order to avoid pulling the straps sidewise.

Shuttle with Increased Bobbin Capacity

Southern Shuttles Division of Steel Heddle Mfg. Co., Greenville, S. C., has developed the LFP type shuttle, said to give increase of bobbin capacity without replacement of lay ends. The shuttle itself is increased in length by ¼". The shuttle is described as being entirely redesigned so that the tips harmonize with the shorter head. The chamber opening is larger, with the walls being thinner at the top but of standard dimensions at the bottom, thereby increasing the diameter of the filling capacity without causing weakness.

High-speed check strap.



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NOVEMBER 21
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A Cordial Invitation

We wish to extend a cordial invitation to all our friends and customers to be present at an "Open House" marking the official opening of our new Southern offices and plant in Charlotte, N. C. We hope you will come and see for yourself the increased facilities which are now at your disposal for keeping your machinery in first class condition with genuine Whitin equipment parts.

This is *your* plant. Its main product is SERVICE — the finest service possible on a wider variety of Whitin equipment. It is manned by skilled craftsmen working under the guidance of a Whitin-trained staff. Their sole purpose is to keep the Whitin machinery in your mills operating at maximum efficiency.

We believe that your visit will prove to be an interesting and instructive experience. We shall look forward to seeing you on November 21.

10:00 A.M. to 4:30 P.M.

WHITIN MACHINE WORKS

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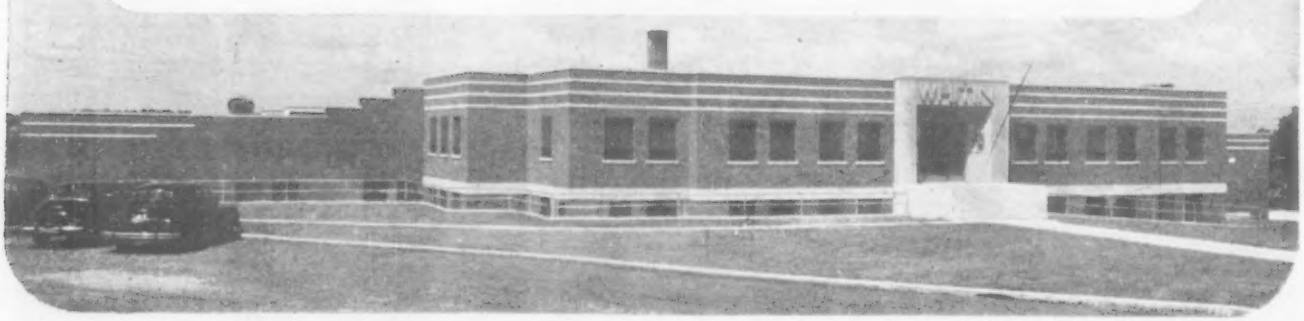


Lighting Fixture

Particularly adapted to the requirements of the textile industry, according to its manufacturers, is the new industrial fluorescent lighting fixture, RD-80, announced by the Holdenline Company, 2301 Scranton Road, Cleveland, Ohio. It has internally-mounted ballast, the new General Electric turret sockets, and enlarged wireway for continuous runs.

The new unit will be furnished with vitreous porcelain enamel reflector, designed to a shielding angle of 14 degrees, a reflectance factor of over 79%, and an overall efficiency of above 80%. No-blink starters will be standard equipment.

Bottle Oiler for Limited Space

Especially designed for tight quarters, the flat side shallow body oiler can be installed in about half the space usually required for a bottle oiler, according to the Lunkenheimer Co., Cincinnati, Ohio. Measuring 3⅜" in overall length, the oiler is just ¾" from center line to flat side.

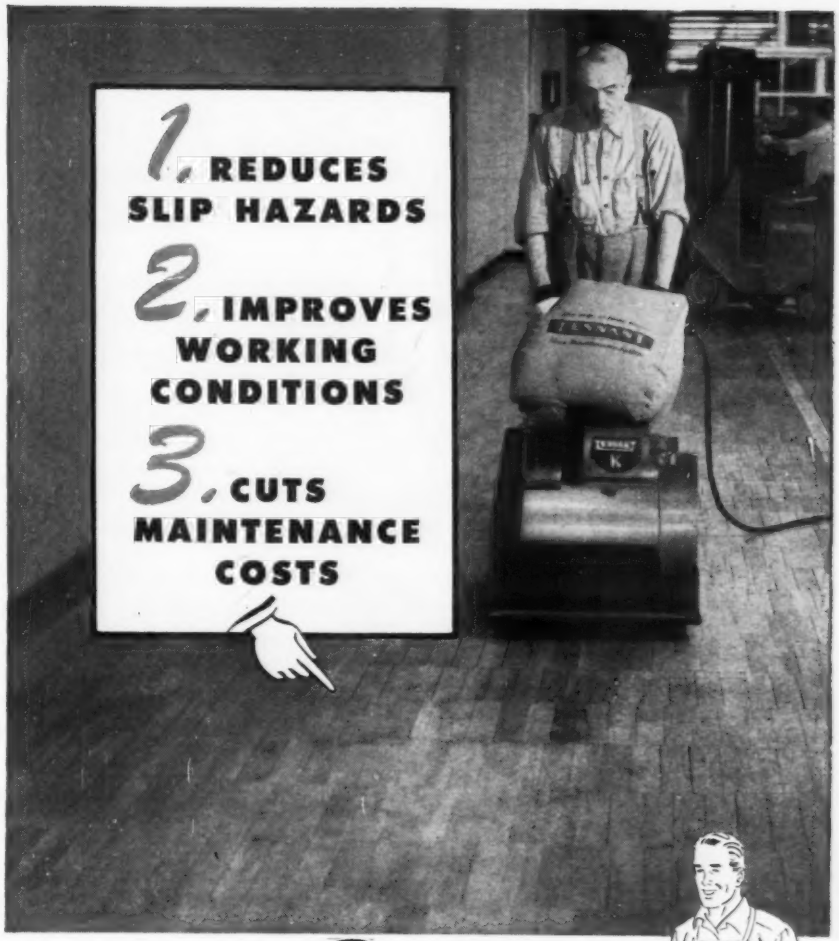
The new oiler has features of automatic operation, feeding only when the shaft is in motion; visible oil supply; no oil wastage; ease of refilling; easy application.

Portable AC Glass Electrode pH Meter

National Technical Laboratories, 820 Mission St., South Pasadena, Calif., have announced a portable glass electrode pH Meter. Designated as the Beckman Model H meter, the instrument can be plugged directly into any standard 110 v. 50/60 cycle ac line, and can be easily transported from one location to another or installed permanently.

The Model H covers the full scale of 0 to 14 pH and can also be used for making millivolt readings within the range 0 to ∓ 410 millivolts. Measurements of pH can be made to an accuracy of 0.03 pH unit, and millivolt readings to 2 millivolts. A neutral position on the switch disconnects the indicating meter from the electrical circuit to avoid excessive swinging of the meter needle during warm-up periods and when changing test samples or electrodes.

Standardization with one buffer gives accurate measurements over the full range of the instrument, thus eliminating cross checking between two buffers. The instrument may be checked and corrected for drift at any time by simply pressing a button on the electrode terminal and bringing



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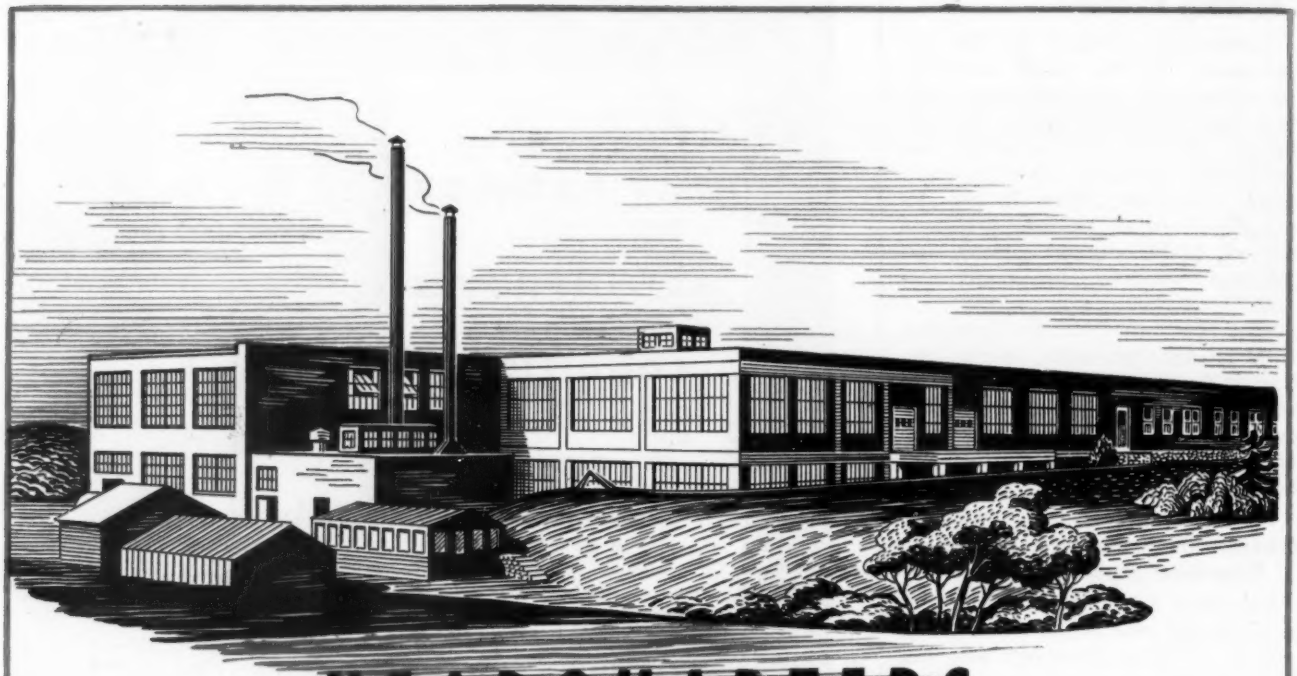
Tennant 201 Oil Cover Paint masks dark oily areas like magic . . . you just paint it on. Flows easily; dries fast. Ideal for use under looms, for painting machines, etc. Special lacquer base; easy to keep clean. All standard colors.



HEADQUARTERS FOR SIZE

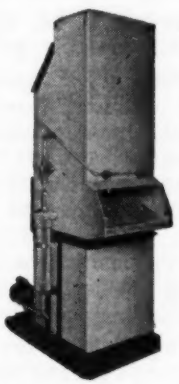
THE FACT that we are the nation's largest producers of sizing is important only as indicating the superior qualities of SEYCO Sizing in textile production.

SEYCO Sizing is scientifically formulated to produce a tough, elastic, pliable film, which lays the fibers smoothly: reducing friction, breakage and shedding to the minimum.

SEYCO Sizing is sufficiently anchored by proper penetration, but is easily removed. Its deliquescent feature protects against over-drying. SEYCO Sizing is the result of more than 40 years experience and constant research.

Many mills tell us that SEYCO Sizing makes for fewer interruptions in production and greater uniformity of product.

Our technical service men, backed by our large modern laboratories, will gladly cooperate with you in getting best results from SEYCO Sizing.



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PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS • TWIST SETTER MACHINES •

the needle to the pointer position with the standardization control.

The instrument is compact, measuring 12" x 9½" x 8½" overall, and with a net weight of 14 lbs. It has a power consumption of 35 watts and is supplied complete with electrode support rod, electrode holder, glass electrode, calomel electrode, pint of pH 7.00 concentrated buffer, 100 ml saturated KC1 solution, and 50ml Pyrex beaker.

Calculating Aids Devised by Viscose

Four time-saving calculating aids have been devised by American Viscose Corporation and are being offered on a limited scale to technicians, purchasing agents, and salesmen of textile mills, converting, and finishing houses.

A little rule is included for calculating the warp and filling yarn requirements in 75, 100, 120, and 150 denier. With it a technician can quickly determine the poundage of warp and filling yarns he needs to fill a yardage order, or the number of yards of cloth the mill can turn out from the poundage he has on hand. The warp scale runs from 100 to 10,000 ends, with five per cent warp take-up included, and the filling scale from 20 to 100 picks per inch, in steps of four picks.

With the fabric weight conversion table, technicians trained on one system, who naturally think in its terms, can quickly determine that what they may call a 10½-ounce fabric is the same weight as what a cotton man will call a 1.52-yard fabric, or even a 65.63-pound fabric.

A denier conversion table permits cotton, worsted, and woolen technicians to convert quickly to their own weight systems the weight of rayon, as expressed in denier. A glance at the table tells them that a 1100 denier rayon yarn is the equivalent in weight and fineness of

a 4.83s single cotton count, a 7.25 worsted, and a 2.54 wool run, and that whichever system is used, the yarns run 4,059 yards to the pound. Thus the fabric designer can determine his yarn requirements. This table runs from 10 denier to 5000.

The fourth aid is a spinning twist calculator, of use in ordering yarn pun on the cotton system.

Rayon Staple Imports Exceed 1939 Figures

September shipments of rayon yarn and staple totaled 80,500,000 pounds, slightly under shipments in the previous month, but 18 per cent over deliveries in September 1946, according to the October issue of the *Rayon Organon*. Total deliveries for the first nine months of the year amounted to 695,000,000 pounds, 11 per cent more than was shipped in the corresponding period of 1946.

Yarn and staple shipments during September showed increases of 11 and 46 per cent respectively over September 1946 on the basis of delivery of 60,100,000 pounds of filament yarn (41,200,000 pounds of viscose+cupra and 18,900,000 pounds of acetate) and 20,400,000 pounds of staple (15,100,000 pounds of viscose and 5,300,000 pounds of acetate).

The domestic supply of rayon staple during the first eight months of 1947 has been augmented by 28,719,000 pounds from abroad. The volume of imports in the January-August period has exceeded that in the corresponding period of the record year of 1939 by 3 per cent.

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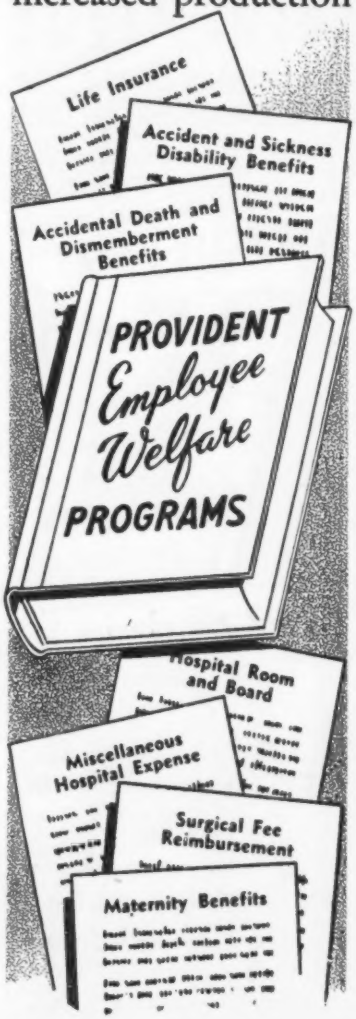

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Full details on request

AN

EXECUTIVE VIEWS

THE NEWS IN TEXTILES

Maid of Cotton

To start with, we are going to stray for a moment from the beaten path of industrial relations, exports, and wage statistics, to remind you that one of the cotton textile industry's important promotional projects is about to get under way for another year. Each year the National Cotton Council, with the assistance of the Memphis Cotton Carnival Association and the Cotton Exchanges of Memphis, New York, and New Orleans, sponsors the highly-publicized Maid of Cotton Contest.

Across the United States, as well as in France, the 1947 Maid, Hilma Seay, carried the story of cotton. She took part in fashion shows in many leading cities, modeling sportswear, evening gowns, play suits, and other items. Through personal appearances and through the resulting publicity which appeared in newspapers and magazines and over the radio, the Maid's tour preached the gospel that as far as women's clothes are concerned, cotton is still king.

The 1948 contest, the National Cotton Council advises, is now moving along to a conclusion. Closing date for entries is December 1, with the winner being selected in Memphis, January 6, 1948. Contest policy rules out girls who are married, who weigh over 125 pounds, or who were not born in a cotton-growing state.

The annual Maid of Cotton contest is publicizing cotton in the fashion centers of the world, but in addition to that it is helping to "sell" the cotton industry to the people of the United States. The Maid is doing a good job for cotton growers and cotton mills, and her tour deserves the interest and support of the entire industry.

Communicating with Employees

It may seem to be a far cry from the Maid of Cotton contest to a subject such as "Communicating with Employees," but they are really very closely akin. The first endeavor attempts to get across a story to the public, and the second tries to inform employees. Each function is important in any well-rounded organization.

One method of communicating with employees which we mentioned briefly some months ago is the plant newspaper or magazine. Approximately 60 newspapers and magazines are published by southern textile mills (exclusive of hosiery mills), according to an estimate of one close to the situation, and the trend seems to be growing as more and more executives become increasingly aware of the fact that an informed employee is usually a satisfied employee.

Riegel Textile Corporation, with plants at Ware Shoals, S. C., and Trion, Ga., recently published a small handbook which should go a long way in this direction. It's entitled, "Working Together at Riegel." The first two sentences from the book will give you an idea of the way it is "slanted." They read this way: "Trion is a friendly place to work. You who are new with the company will find that your job at Trion is more than just making a living."

From this beginning, the handbook proceeds to tell in readable, easy-to-understand words what the policies of the company are with regard to its employees. It describes policy with regard to wage rates and hours of employment, to third shift premiums and overtime. It goes into the subjects of absences and leaves of absence, of health and safety, insurance, etc., and lays down a few simple rules which employees must follow.

The book is intended for use by both old and new employees. In addition, it gives the casual, "outside" reader the impression that Riegel must have an effective personnel setup and must take considerable interest in the welfare of its employees. And so in this respect the handbook does an effective job from the standpoint of *public* relations as well as employee relations.

Warp and Weft

Another publication is the "Brighton Warp and Weft," published each month by the employees of Brighton Mills, Shannon, Ga. To our way of thinking this is one of the outstanding textile publications. To begin with, it is printed on high-grade paper, and the printing and engravings are excellent. It is an especially

Rayon Reports

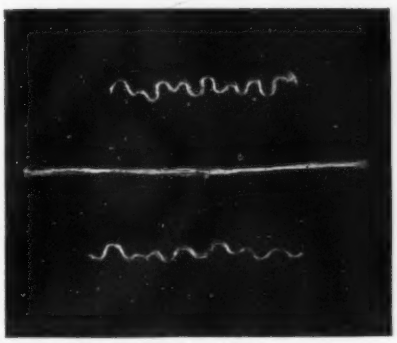
Prepared Monthly by American Viscose Corporation, New York, N. Y. NOVEMBER, 1947

New Permanently Crimped Rayon Staple Now Achieved by American Viscose

Viscose rayon staple with a *permanent crimp* – of far-reaching importance to the textile industry–is a recent achievement of American Viscose engineers.

Many experiments on full-size machinery in AVC's Textile Research Department, as well as in mills, have already demonstrated the fiber's remarkable utility. By itself or in blends with wool, cotton, and other rayon fibers, it imparts a crisper hand and bulkier appearance. In soft-nap fabrics, it provides warmth without excess weight to a remarkable degree, by "bulking up" the yarn and preventing formation of tight, dense fiber groups. It also gives a crisp, lively, full hand to higher twist fabrics such as gabardines.

Studies further show that it presents no manufacturing problems to spinners and weavers, and calls for no new equipment and no special personnel training.



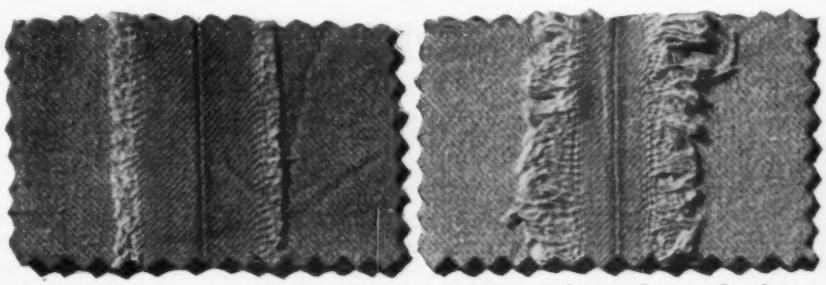
At top is a sample of the new Avisco Crimped Staple. Next is a sample that has been wet and dried out under tension. Finally it has been rewet and redried in a relaxed state, and the crimp has fully returned.

In carding, the web shows excellent cohesion without excessive neps. On the woolen and worsted systems, card roving is full and ends-down per hour are lower than with standard staple.

In drawing and spinning, too, it shows a remarkable ends-down efficiency and permits lower twist in the yarn with faster front roller speed and production. In all other fabricating operations, Avisco Crimped Staple reacts the same as standard staple.

By extending rayon's usefulness to new horizons, Avisco Crimped Staple is an outstanding example of Avisco's "4-Ply Service" in action . . . a notable achievement of AVC's continuing program of fiber research, fabric design, fabric production and fabric finishing.

For further facts as well as samples of fabrics constructed with the new fiber, write today for the booklet, "Avisco Crimped Staple." Address: American Viscose Corporation, 350 Fifth Avenue, New York 1, N.Y.



Examples of resistance to seam raveling in laundering. Left swatch is made of Avisco Crimped Staple, right of regular viscose rayon staple. Both swatches are of identical construction, and underwent 5 identical launderings.

RAYON 20 YEARS AGO

NEW YORK, Nov., 1927 – Grade A domestic rayons are quoted here at between $2.45 for 55 denier and $1.15 for 900 denier, per pound.

LONDON, ENG., Nov., 1927 – A recent patent covers a new method of manufacturing viscose rayon having a reduced luster.

NEW YORK, Nov., 1927 –"It" girls of this Jazz Age are saying they'll never wear those long skirts again.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

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2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

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Schieren Duxbak belting gives you maximum production with a minimum of interruptions for maintenance. Here are two of the reasons why:

LESS STRETCH—Freedom from uncombined tanning materials lets internal fibers draw down nearer parallel during the currying operation . . . reducing stretch.

GREATER LOAD CAPACITY AT LOWER TENSION—The clean, full grain surface of Schieren belt assures better pulley grip, enabling the belt to do more work with less strain. Result—longer belt life and less wear on bearings.

SOME OTHER SCHIEREN QUALITY LEATHER PRODUCTS

Leather V-Belting
100 ft. rolls. A, B, C, and D sections.

Leather Packings
For Hydraulic, Pneumatic, High Pressure, Low Pressure and High Temperature service.

Leather Specialties
All types, straps, pickers, aprons, discs, clutches, etc.

Write for complete information or price quotations on any of the above products.

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SC-17

attractive publication.

Apparently, "Warp and Weft" is "beamed" at the public as well as at employees. At least it must be intended for the customer section of the public, because it is sprinkled with page advertisements depicting Brighton fabrics. But in spite of the colorful ads it seems to us that the best selling job is done with the pictures of Brighton employees at work and at play, as well as with the stories of every-day happenings, because these show that at Shannon, Georgia, people are healthy and happy, that they work and play together in peace and harmony. These things are not always understood by people who live outside the South, nor are they always understood even by those who live in the South.

From the standpoint of the employee, "Warp and Weft" contains much news and feature material. One section is devoted to fashions, another to school news, another to sports. A two-page spread is given over to "Life at Brighton," and another page contains pictures and brief write-ups of new employees.

So you can see from all this that "Warp and Weft" is an extremely readable textile house organ and that it does a good job in public relations and in employee relations—a double purpose that is usually difficult to accomplish in one publication. If you are considering starting a newspaper or magazine for your plant, the Brighton magazine gives you a good example of what can be done in this field.

North Carolina Meeting

This has nothing to do with plant newspapers, but we would like to mention that another opportunity for stimulating thinking, as well as for renewing friendships and acquaintances, was presented last month when North Carolina Cotton Manufacturers Association held its annual meeting at the Grove Park Inn, Asheville. Veterans of many years of service in the industry were present, as well as many newcomers.

The meeting was well-attended, and Secretary Hunter Marshall, himself a veteran of some 25 years as a trade association executive, had all events efficiently organized. Speeches were made by Governor R. Gregg Cherry and other North Carolina officials on what the Association termed "North Carolina Day," and several mill men were heard from on various subjects.

One of the outstanding speeches of the meeting, however, was made by R. Dave Hall, retiring president. His recitation of Sidney Lanier's poem, "Song of the Chattahoochee," which he used in conclusion to illustrate the hills and valleys of textile prosperity, was as effective a simile as this writer has ever heard.

And so with that we'll sign off until next month—same time, same place.

Textile Meeting Held by ASTM in Philadelphia

A SERIES of meetings on textiles, sponsored by the Philadelphia District council of the American Society for Testing Materials in cooperation with ASTM Committee D-13 on textile materials, was held at the Benjamin Franklin Hotel in Philadelphia, Pa., during the period October 15-17.

A symposium on flammability, under the auspices of Committee D-13, comprised the first session which was held on Thursday afternoon, October 16. Dr. Frederic Bonnet, vice-president of American Viscose Co., Marcus Hook, Pa., presented to the group, a paper entitled "Flammability of Textiles" which outlined the facts that have influenced the present public awareness of the flammability question, and he also reviewed the legislation enacted and pending on this subject.

Dr. R. W. Little, director of research for Ellicottville Laboratories of Lawrenceville, N. J., discussed flameproofing of textiles in theory and practice, in his paper. He told of new developments in this field as well as those being studied.

"The Retailer's Viewpoint on the Flammability of Textiles" was the subject of the paper presented by C. W. Dorn, director of research laboratory for J. C. Penny Co., Inc., of New York, and chairman of the technical committee, National Retail Dry Goods Association. Mr. Dorn pointed out that at the present time there is no "ac-

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CORES of cold drawn aluminum or steel. Cannot warp, sag, or get out of alignment.

NYLON BRISTLE is wound on the metal core with flat corrosion-resistant wire and sealed in place with a special solvent-proof cement.

OTHER "METLKOR" CYLINDER BRUSHES USED BY THE TEXTILE INDUSTRY INCLUDE:

- Clothroom brushes for shears and brushing machines.
- Laying and Raising Brushes.
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Get catalog and full descriptions of Jenkins' brushes for all purposes.

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cepted or proved test method" for the evaluation of flammability of textiles.

"With conditions as they are today," he said, "the retailer is desirous of obtaining a good, workable commercial standard for the evaluation of flammable materials. He is willing that this standard be tried out on a voluntary basis to see whether or not it will solve the existing problem.

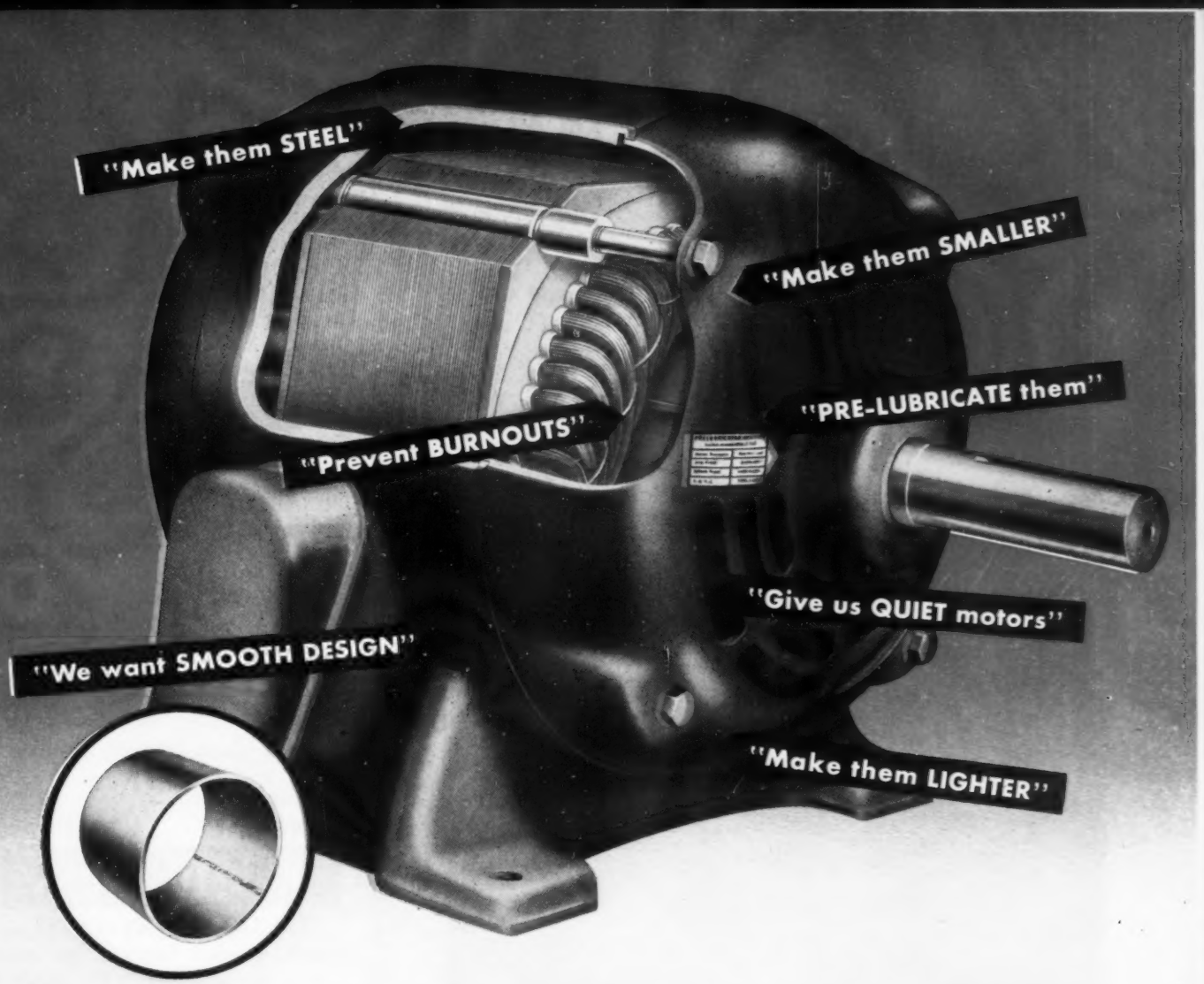
"In the event of undesirable Federal legislation being introduced, it would seem quite apparent that both retailers and manufacturers would then join hands and be sure that if any legislation is passed, it is of a sound nature and based upon sound, proven test methods," Mr. Dorn concluded.

At a dinner in the evening, Dr. S. J. Kennedy of the Research and Development Branch, Military Planning Division, Office of the Quartermaster General, Washington, D. C., told the members of ASTM that they can give inestimable assistance in development of clothing and equipment for the armed forces by continually examining and improving their specifications for the guidance of the textile industry.

Textile fibers, fabrics, and finishes were discussed by three prominent men in the industry at the second technical session held on Thursday evening, under the auspices of the Philadelphia District Council of ASTM.

Ben L. Whittier, sales engineer of Mt. Vernon-Woodbury Mills, Inc., Baltimore, Md., outlined and demonstrated various industrial uses of cotton fabrics. He commented that there is a broad field for development of fabrics for use by the plastic laminating trade.

Pursuing the theme "The Finish Makes the Fabric," D. H. Powers, director of textile chemicals department, Monsanto Chemical Co., Boston, Mass., stated that the textile industry's approach to the problem of producing fabrics with certain characteristics by blending the various fibers has, in his opinion, been a waste of time and money, due to the fact that a heterogeneous mixture is the result. It was his recommendation that thinking be revised with a view toward developing finishes that give a fabric the desired charac-



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For years, motor users complained that no one motor had all the features they wanted most.

Westinghouse engineers surveyed motor users to find out exactly what they needed . . . and then tailored an entirely new motor to fit those requirements.

The result is the new, outstanding Life-Line Motor—the first truly all-steel motor made available to industry. Packed in its thick, protective steel housing are more benefits asked for by motor users than any other motor made today:

ALL-STEEL PROTECTION. All frames, feet and brackets are HEAVY STEEL.

UP TO 35% LESS SPACE PER HP. Life-Line Motors occupy less space per horsepower than any other standard motor.

UP TO 134% MORE TORQUE PER LB. As much as 134% higher starting torque per pound of motor . . . up to 116% higher maximum torque.

NO LUBRICATION NEEDED FOR 5 YEARS. Bearings are prelubricated . . . sealed against dirt and moisture.

STRONGER ELECTRICALLY. New insulating materials . . . new coil-winding techniques . . . new stator slot designs . . . give new record-setting electrical strength.

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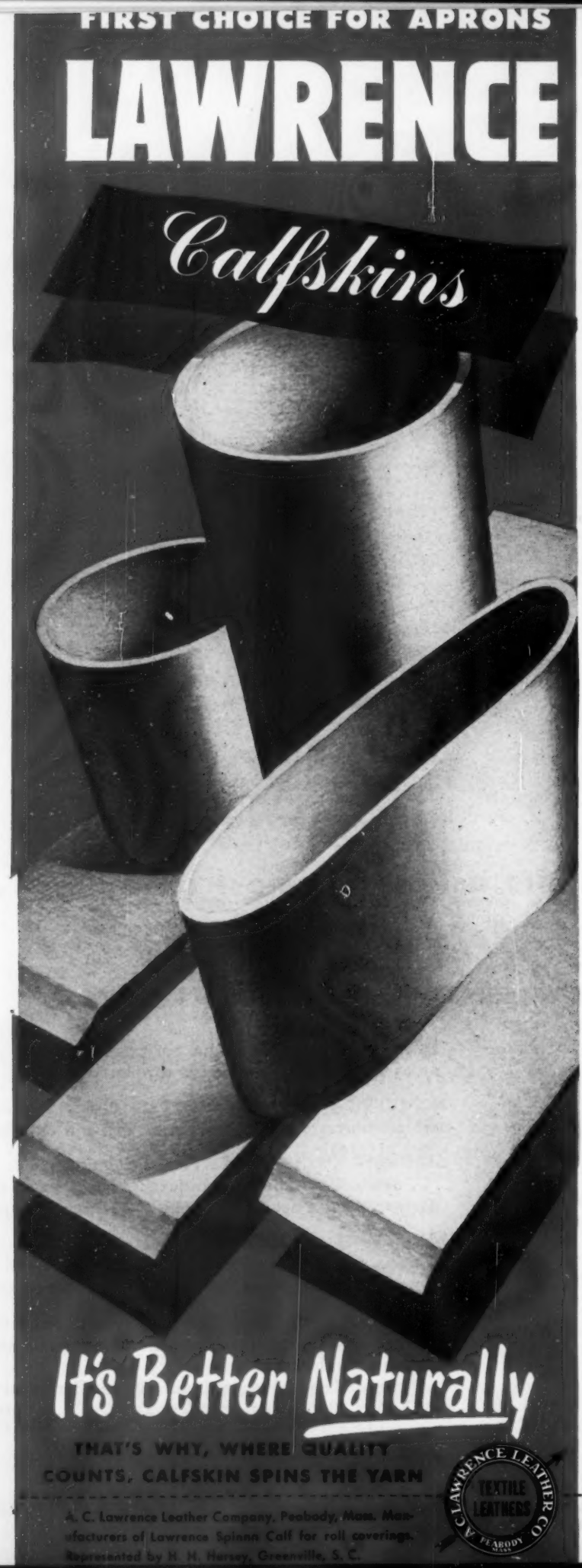
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teristics, maintaining the composition of the fabrics as simple as possible with regard to blends of fibers.

Characteristics and applications in the textile industry of Fiberglas, nylon, Vinyon, Saran, and Polyethylene were vividly presented to the group by Rene Bouvet, head of Textile Research Department, American Viscose Co., Marcus Hook, Pa. Mr. Bouvet said, "Their future depends largely on what they can do, on their properties, on their ability to meet increasingly exacting requirements and more refined taste. Of course, their price will remain an important, if not the controlling factor.

"The modern trend," Mr. Bouvet concluded, "is toward greater variety — not standardization, and this suggests that the outstanding properties of new fibers be featured with gusto while educated caution protects them from end uses for which they are unsuited."

NEW PUBLICATIONS OF TEXTILE INTEREST

Nopco Chemical Co., Industrial Advertising Division, Harrison, N. J. Another addition of the booklet "Interpretation of Analysis for the Layman," which is helpful to those working with industrial chemicals.

Cochrane Corp., 17th St. & Allegheny Ave., Philadelphia 32, Pa. Publication 4410, on the five different flash-tank and heat-exchanger systems for recovering the otherwise wasted heat in boiler blow-off water. This is entitled "Cochrane Continuous Blow-off Systems."

J. E. Rhoads & Sons, 35 North Sixth St., Philadelphia 6, Pa. Handbook containing engineering data for the design and installation of Rhoads Tannate-Rockwood drives, or Tannate leather belting for Rockwood short center, pivoted motor base drives.

E. I. du Pont de Nemours & Co., Inc., 350 Fifth Ave., New York 1, N. Y. Booklet describing various types of coated fabrics engineered for upholstery.

American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y. Booklet on Filt-R-Stil demineralizers

which deliver low cost chemical equivalent of distilled water.

American Lumber & Treating Co., 332 S. Michigan, Chicago 4, Ill. Folder covering the usage and specification of "Wolmanized" preservative-treated lumber and "Minalith" fire-retardant lumber.

The Miranol Chemical Co., Inc., 2 Ford Ave., Milltown, N. J. Booklet which describes various Miranol detergents and wetting agents, and provides a means of selecting the correct synthetic organic detergent.

Aluminum Company of America, Pittsburgh 19, Pa. Publication entitled "Alcoa Temper Designations for Cast and Wrought Products."

The Brown Instrument Company, Wayne & Roberts Aves., Philadelphia 44, Pa. Catalog No. 8905, entitled "Air Operated Controllers," information on instruments for the automatic control of industrial processes.

The Foxboro Company, Foxboro, Mass. Bulletin 277-2 entitled "Pneumatic Control Valves and Controller Accessories."

Eriez Mfg. Co., 3068 East 12th St., Erie, Pa. Booklet which describes the use of magnetic separators in textile applications, entitled "Eriez Permanent Non-Electric Magnetic Equipment."

Hatch Textile Research, 25 East 26th St., New York 10, N. Y. Tables of needles and gauges on full-fashioned hosiery, including 60 and 66 gauge.

Carbide and Carbon Chemicals Corp., 30 East 42nd St., New York 17, N. Y. Form 6500 entitled "Ucon" Fluids and Lubricants (Polyalkylene Glycols and Derivatives), a booklet discussing in detail the important properties and uses of several series of "Ucon."

Onyx Oil & Chemical Co., Jersey City 2, N. J. A series of data sheets outlining in detail the major uses of the individual product involved; its technical advantages; performance data; application details where practicable; and its chemical and physical characteristics. Those sheets thus far issued are on: Neutronyx 330, Repel-O-Tex D3—Repel-O-Tex D4, Eternalure D-15, NSAE Paste, Repel-O-Tex 115B Special, Phil-O-Sol WA, Dullatone CA, NCF Paste, Onyxsan LG, Oroset L, Imularv P and Imularv S, Stearo Glyceryl Sulfate N, and Larvonil P.

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It's Better Naturally
THAT'S WHY, WHERE QUALITY
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A. C. Lawrence Leather Company, Peabody, Mass. Manufacturers of Lawrence Calfskins — 1st choice for aprons.
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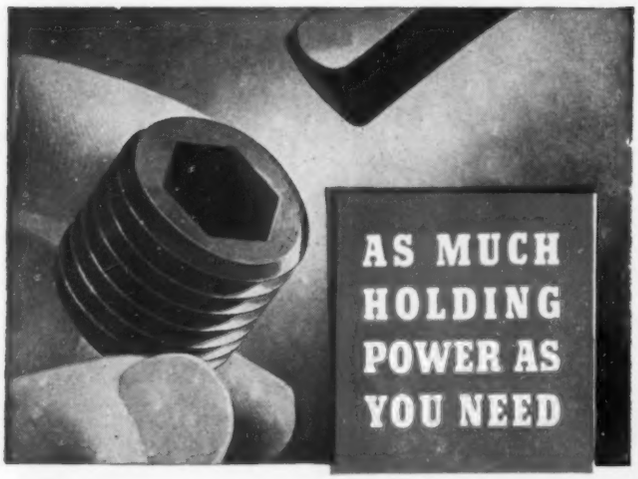


Whether a "hex" socket screw is right for your fastening, or—because of small size of components, vibration conditions or ease of disassembly—the BRISTO "Multiple-Spline" is needed, you get *maximum strength* from Bristol's "B-Line".

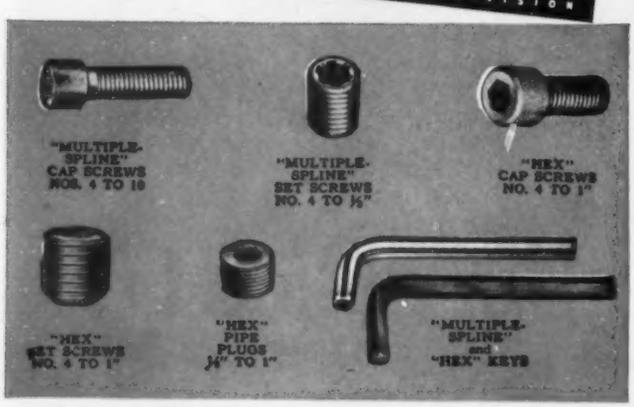
Both the "Hex" and "Multiple-Spline" socket screws represent careful, correct design by Bristol engineers. In addition, Bristol's system of raw material control *keeps* quality up to rigid standards. And Bristol's inspection methods, which include tests for hardness and ultimate strength, gauging for precision of lead and pitch—plus a final visual inspection before packing—result in "Hex" and "Multiple-Spline" screws that feature maximum strength . . . uniformity . . . accuracy.

For extra security—at no extra cost—select the right style from the Bristol "B-Line"—made by a manufacturer with 33 years' experience in socket screws. Order from your distributor. THE BRISTOL COMPANY, Mill Supply Division, 125 Bristol Road, Waterbury 91, Conn.

WHY "MULTIPLE-SPLINE" MEANS TIGHTER

NO EXPANDING PRESSURE: THE KEY PULLS THE SCREW AROUND

Only the "B-LINE" has the right socket screw for every application


"MULTIPLE-SPLINE" CAP SCREWS NOS. 4 TO 10
"MULTIPLE-SPLINE" SET SCREWS NO. 4 TO ½"
"HEX" CAP SCREWS NO. 4 TO 1"
"HEX" SET SCREWS NO. 4 TO 1"
"HEX" PIPE PLUGS ¼" TO 1"
"MULTIPLE-SPLINE" and "HEX" KEYS

More than Just a Knot

BOYCE WEAVER'S KNOTTER

The Boyce Weaver's Knotter ties a perfect weaver's knot, but even more important, it offers two specific advantages over human hands.

The Boyce Knotter is *fast*—so fast that an experienced operator can tie more than 5000 knots during a regular 8-hour shift.

The Boyce Knotter is *uniform, accurate*—as it clips the ends of each knot clean and even. Loose, long ends that so often catch in heddles and reeds are completely eliminated.

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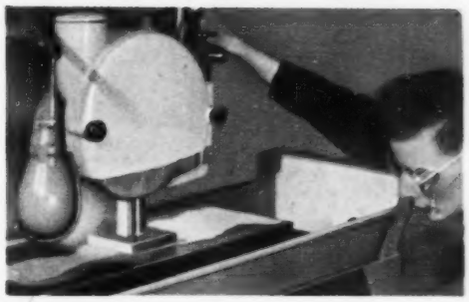
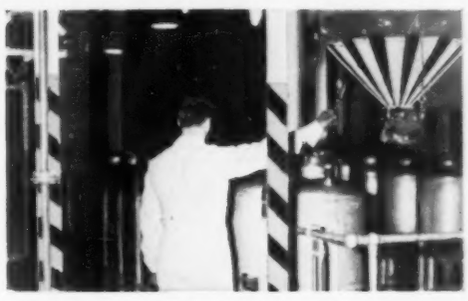
"... **COLOR CONDITIONING** makes the Kirsten Plant a better place to work in ... contributes to maintaining production at high, rigid standards of quality. Employees have recognized the advantages of working in a plant that is Color Conditioned. This has been proved by high morale and exceptional efficiency." **KIRSTEN PIPE COMPANY, Seattle, Wash.**



VISIBILITY. Color Conditioning lessens eyestrain and fatigue by reducing glare. Provides the correct degree of "brightness" within the worker's field of vision.



SAFETY. Du Pont Safety Color Code helps prevent personal injury by "pointing up" hazardous areas. Colors and symbols also indicate location of first-aid and fire protection equipment.

Du Pont Color Conditioning

Increases production and improves quality

MORALE. A cheerful, pleasant environment gives workers a lift ... pays off in better work. Color Conditioning in washrooms, cafeterias, etc., helps promote good employee-management relations.

FOR EVERY INTERIOR. Every part of your plant can gain through Color Conditioning ... stairways, offices, corridors, assembly rooms, etc. This proved painting plan gives an agreeable, efficient atmosphere to every interior.

HUNDREDS of industrial plants are today confirming the value of Du Pont Color Conditioning in boosting employee productivity. This scientific painting plan contributes to workers' efficiency, safety, comfort, and morale. By helping them see better, feel better, and work better, it increases output per man-hour ... helps reduce maintenance costs. Learn how Color Conditioning can bring these same benefits to *your* plant ... send coupon below to E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Del.

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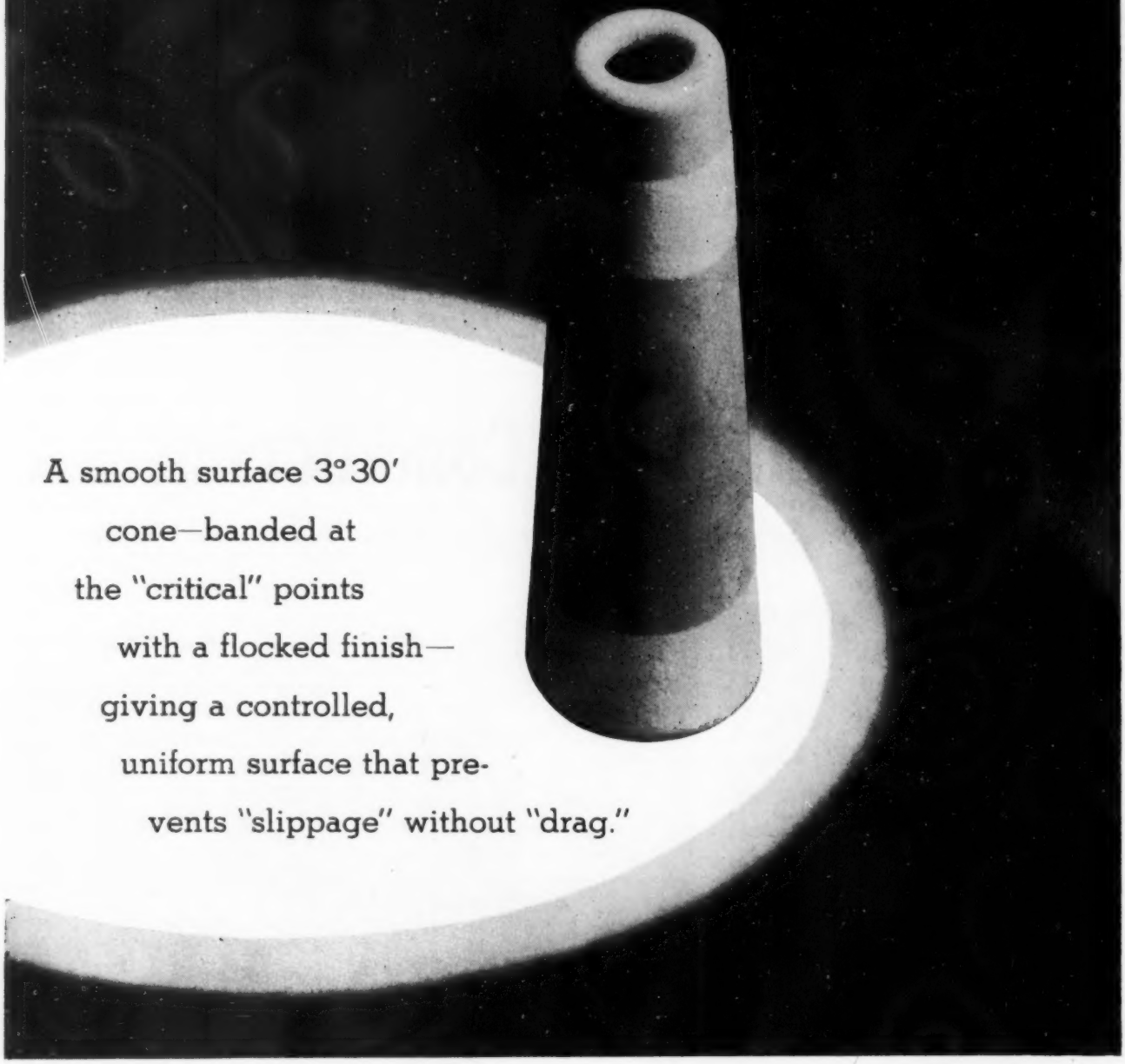

A smooth surface 3° 30′ cone—banded at the "critical" points with a flocked finish—giving a controlled, uniform surface that prevents "slippage" without "drag."

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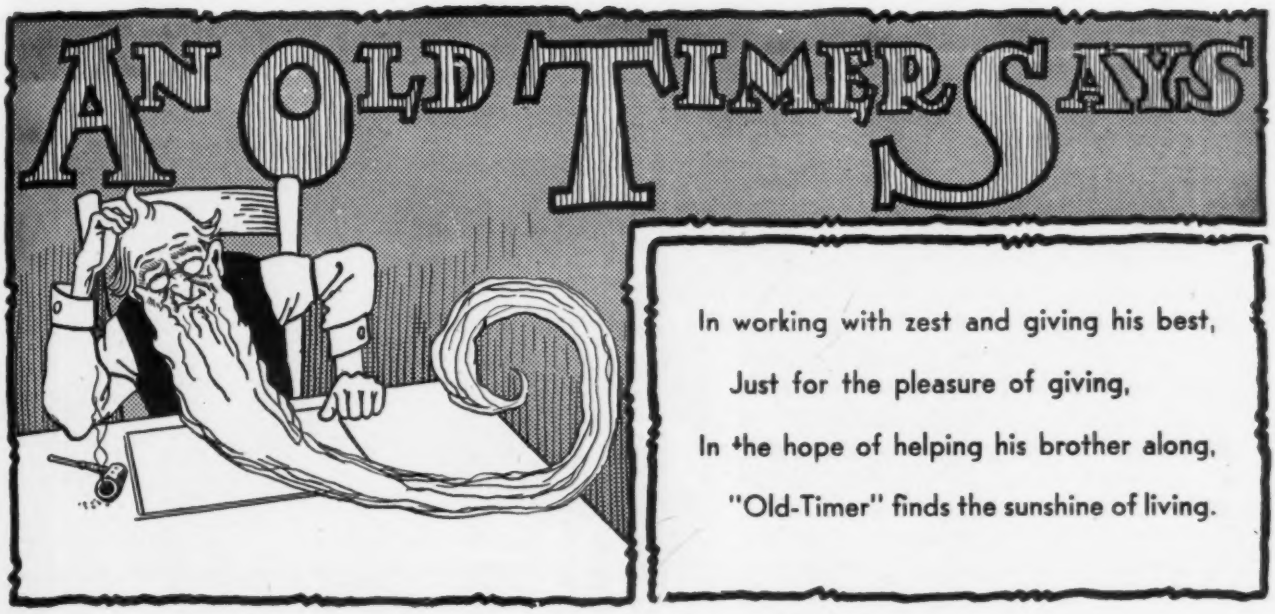
AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

RANDOM THOUGHTS:
Why Overseers Lose Jobs

WHEN OLD-TIMER was first promoted to overseer he was very apprehensive about losing that job. He decided one way to guard against that loss would be to find why most overseers and superintendents lost their jobs, and then try to avoid those pitfalls. Every time he would hear of an overseer or superintendent losing his job, he would start inquiring to find the cause.

Yes, we know the answer which has quickly formed in your mind: "Women and Liquor." You are partly right, but the fact is that over a period of years and after compiling much information, we decided that TEMPER was the cause of most overseers and superintendents losing their jobs.

This included the "temper" of their employers, too. In an effort to profit by this information OLD-TIMER fixed the following axiom indelibly in his mind: *Do Not Let Your Temper Cost You Friends or Money.*

And, boy, it sure has paid off. Many times that slogan has caused us to stop and meditate before saying what we wanted to say. Now, brother, why don't you profit by OLD-TIMER'S experience. These ten words may save you your job someday or save you several thousand dollars. If you and your good wife will both keep those ten words in mind it will save many unnecessary quarrels.

Cut the slogan out and paste it in your purse so you will see it often.

RANDOM THOUGHTS:
Production Incentives

OLD-TIMER once took charge of a large mill on dobby work. The superintendent had been killed in an accident. The mill president had been well satisfied with the way the mill was being operated, though the average production on all dobby weaves was 83%. (Don't laugh—that wasn't yesterday, and some of the dobby weaves were pretty tough.)

Many mills in those days allowed their superintendents rather broad authority in setting rates for piece work. As the average production was 83%, we adopted a schedule of rates which gave an advance in price per cut to weavers whose production was 85%. A greater advance in price per cut was offered for 88%, 90%, etc. Production went up so fast that before we realized what was going on we were waiting on warps. Naturally cost per pound went down in proportion.

This case was cited as only one instance representing the fact that if you pay more for extra production you will get more production. And don't say the unions won't let you. OLD-TIMER cited, in an article published not so very long ago, many commercial unionized firms which were using such a system. Just why some mills do not give the best pay to the operatives who do the best work, we are unable to explain.

The child in school who does the work best, gets the best report card. The farmer who tends his crops best, gets the best (most) pay. The doctor who does the best job in curing people, gets the best pay—so it is with the lawyer—the merchant—the textile mill overseer and superintendent—then why in heck don't we apply the same good sense to weavers, to spinners, to fly frame operators, and all others where some workers do better work than others.

RANDOM THOUGHTS:
Top Men Are Not Born

REMEMBER, FELLOWS: Top executives are not born that way. They are made, mostly self-made. Are you ready to start? You don't have to be a college or even high school graduate. If you can read and have the determination you can improve yourself far beyond your present imagination.

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

SUPPLIERS' NEWS

WHAT THEY ARE DOING

Universal Winding Company has announced the appointment of C. Foster Harry, former engineering field supervisor with Rath & Strong, Inc., Boston, Mass., as vice-president in charge of manufacturing.

Mr. MacFarlane

Three promotions designed to augment the expanding sales program of the Corn Products Refining Co., New York, have been announced: Alexander MacFarlane was named executive assistant to the general sales manager; Harold Francis, formerly manager of the Chicago office, has been appointed assistant general sales manager of the eastern division; Warren Winter, former manager of the Indianapolis office, is now manager of the Chicago office.

The following staff appointments have been made by the Harris Research Laboratories, Washington, D. C.: As research associates, Herman Bogaty, physical chemist, formerly with the textile and paper divisions of the National Bureau of Standards, and Richard W. Mattson, mechanical engineer, formerly with the Engineering and Research Corp., Riverdale, Md.; as laboratory technician, Ruth Kirkwood.

Tuberculosis chest X-rays have been taken of 3,070 employees of Manhattan Rubber Division, Raybestos-Manhattan, Inc., Passaic, New Jersey.

Walter E. Taylor, formerly associated with the American Viscose Corp., has joined the department of textile chemicals of Sandoz Chemical Works, Inc. He is engaged in research and development work connected with new chemicals to be marketed to the textile industries.

The following appointments to the faculty of the Bradford Durfee Technical Institute have been made:

ONYX IONICS

Newsworthy items for textile technologists and production men

NOVEMBER, 1947

For a Highly Versatile Range of Effects in Body and Stiffness for Cotton, Acetate and Rayon

Onyx Xyno Resin AA40 is a general purpose resin finish offering a wide range of effects in varying degrees of stiffness and body for cotton, rayon and acetate constructions.

This resin dispersion is readily manipulated to give any desired finish from a full, mellow hand to a good stiff body on an unusual variety of fabric constructions. It does not impair luster, and dries to a clear, tough film. Goods are treated in the usual manner, with no need for curing or for high temperatures to set the resin. Moreover, this finish

shows satisfactory resistance to household laundering.

Xyno Resin AA40 is a water dispersion of a thermoplastic synthetic resin. It contains no solvents and is completely stable at all dilutions. Compatible with alkalies, dilute acids and hard water.

For complete data on this resin finish, write for Onyx Technical Bulletin 14-T.

If You Want a Smooth, Firm, Waxy Hand . . .

Onyxsan HSB is another member of the versatile Onyxsan family that deserves your attention. Like all other Onyxsans, it is cation-active, providing a *permanent* finish on cotton, rayon, bemberg and acetate textiles.

Onyxsan HSB is easy to apply in the print washer, jig, quetsch, dye beck or starch mangle, exhausting *into* the fiber to produce its unique effects. An Onyxsan finish is due to changes produced within the yarn, not in any way comparable to the superficial action of surface lubricants.

Although the finish is not as durable on aralac, silk, wool and mixed constructions containing these fibers, Onyxsan HSB is widely used on these textiles for its characteristic waxy finish.

NEW DEVELOPMENTS

For Further Details Write Onyx

Cationic, Lasting Moth-Proofing with Imulary P or Imulary S deserves your investigation. Either material also imparts outstanding bacteriostatic and fungistatic properties. Imulary P is used in water solution; Imulary S in organic solvents. No. 68

•

For Improved Wetting Action in Acid Solutions NSAE Paste has many valuable applications, including more effective acid carbonization of wool and improved leveling of acid colors in wool dyeing. No. 69

•

For Added Absorbency in Towelling and Similar Textiles, Phi-O-Sol WA offers interesting possibilities. It provides unusually effective wetting action and complete compatibility with all types of dyeing, bleaching and finishing materials except cation-active agents. No. 70

•

Economical, Durable, Easily Applied Water Repellency on cotton-rayon, cotton-acetate and many all-rayon, acetate and nylon constructions is assured by Repel-O-Tex D3 and D4 at a cost no greater than that of ordinary fugitive repellent finishes. No. 71

•

A Dry, "Springy" Hand on All Types of Fabrics, particularly nettings in nylon, acetate or rayon, is provided by Onyx Resin S-69, a copolymer resin dispersion of fine particle size. No. 72

Non-Ionic Dispersion and Emulsification

Neutronyx 330 is a non-ionic surface-active agent with exceptional dispersing properties combined with unusually high emulsifying action. It is an excellent detergent due to its wetting action plus solubilizing and emulsifying effects on oils and greases.

Neutronyx 330 has many outstanding applications in textile finishing. It is unequalled as an auxiliary detergent in hard water conditions, due to its non-ionic character. It is particularly useful as a scouring assistant for acetate and rayon. An excellent dispersing and solubilizing agent for acetate colors, Neutronyx 330 also does a highly satisfactory job in dispersing pigments in organic vehicles.

Its non-ionic property makes Neutronyx 330 an effective agent to insure more even exhaustion of anionic or cationic hosiery finishes. It has shown good results in improving wool chlorination in the shrink-proofing operation.

Write for Technical Bulletin 1-T for complete data.

onyx

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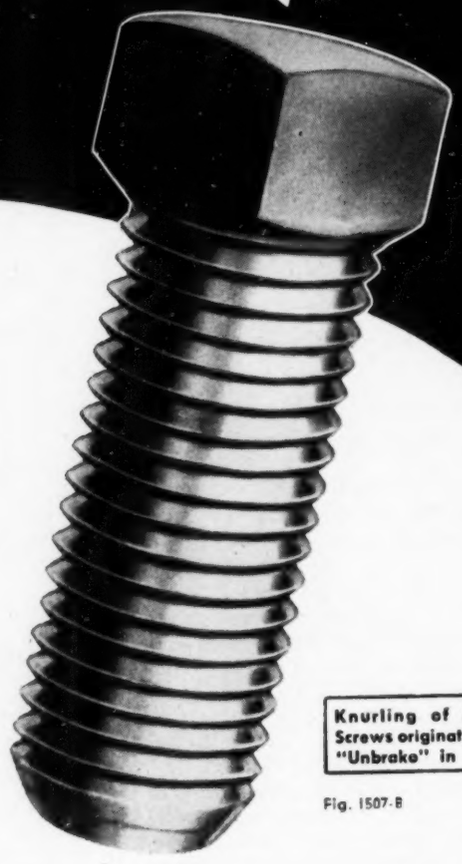
UNBRAKO

Reg. U. S. Pat. Off.



Knurling of Socket Screws originated with "Unbrako" in 1934.

Fig. 1507-B

SQUARE HEAD SET SCREWS

Made of a special alloy steel, the **Unbrako** "Won't Twist Off" Square Head Set Screw is really a "brute" for *strength*. It is practically *impossible* to twist the head off an "Unbrako" . . . thus, reducing cost of maintenance materially . . . *because*, if and when an "Old Style" square head set screw twists off—Boy, oh, Boy!—what it costs these days of high production costs to get it out, especially if it's in an awkward place.

Write now for the "Unbrako" Catalog of Screw Products.

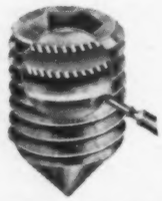
"Unbrako" and "Hallowell" Products are sold entirely through Industrial Distributors.

"UNBRAKO" SOCKET SET SCREW WITH KNURLED CUP POINT

Pat'd and Pat's Pend.

The knurled Cup Point of the "Unbrako" Socket Set Screw makes it a Self-Locker—the point digs in and holds fast, even when subjected to the most chattering vibration.

"UNBRAKO" SOCKET SET SCREW WITH KNURLED THREADS

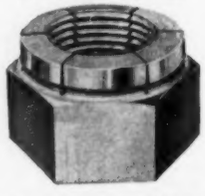


Pat'd and Pat's Pend.

The knurled threads of this "Unbrako" Socket Set Screw makes it a Self-Locker, too, for use where the point does not lend itself to knurling.

"FLEXLOC" SELF-LOCKING NUTS

Pat'd and Pat's Pend



The All-Metal, One-Piece "Flexloc" is a Self-Locking Nut that won't budge, except when a wrench is used. Every thread—takes its share of the load and being a "stop" nut it will stay locked in any position on a threaded member—"a real fastener", if ever there was one. Free samples.

"HALLOWELL" KEY KIT

Ki.s. Pat. Pend.

You can't tighten or loosen socket screws without a hex socket wrench, so why not get our No. 25 or No. 50 "Hallowell" Hollow Handle Key Kit which contains most all hex bits.

OVER 44 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA., BOX [illegible] • BRANCHES: BOSTON • CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

Dr. D. Alexander Severino as head of the department of art and textile design; Dr. James Watters as head of the department of science; John Ferguson as instructor in carding and spinning; Robert M. Gregg as instructor in textiles; John Greenhalgh as instructor in art and textile design; and Frederick Winter as instructor in English.

Mr. Booth

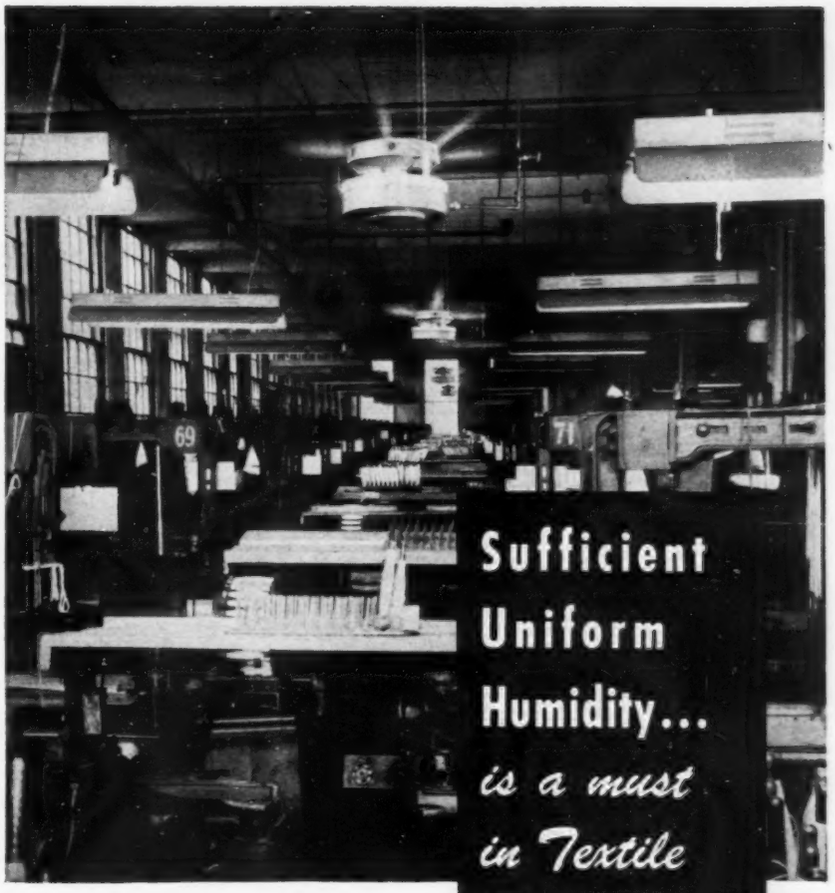
Gordon M. Booth, previously employed by the Beattie Mfg. Co., has become associated with the Diastafor department, special products division, Standard Brands, Inc., New York, N. Y., and will be the company's textile representative in the South.

Organization of a new subsidiary company, named Honeywell A. G., in Switzerland has been announced by the Minneapolis-Honeywell Regulator Co.

John W. Stewart, until recently New England representative of the Aqua-Sec Corp. of New York, has joined the New York sales and development staff of the textile chemicals department of Monsanto Chemical Co.

Announcement has been made of the appointment of Marion O. Moulton, former representative covering the Mississippi territory for the Atlanta office, to the position of assistant manager of Union Special Machine Co.'s St. Louis office. To succeed Mr. Moulton is Jamie Boyette, formerly located in Greensboro, N. C. Replacing Mr. Boyette will be W. D. Harrod, who has been serving as a junior representative for the St. Louis office, working out of Dallas, Tex. Luther D. Cassell, formerly in the Baltimore office, has been transferred to Allentown, Pa.

Hooker Electrochemical Co. has transferred John M. Glaze, formerly associated with the sales department of the home office in Niagara Falls, to the New York sales office.



Walton

HUMIDIFIERS RAISE QUALITY REDUCE SECONDS . . . INCREASE LOOM EFFICIENCY AND MILL OUTPUT! . . .

This typical weaving room obtains the required uniform humidity from a dependable Walton System . . . one of many installations throughout the textile industry, where they have been found to be a "must"!

Walton equipment introduces humidity to air at rated capacity, as soon as the units are started . . . and operate uniformly thereafter! This uniform humidity raises the quality of the product, boosts loom efficiency and mill output. There are so many advantages to Walton we invite you to write us today for full details on Walton Equipment and how it is serving the textile industry.

WALTON LABORATORIES, INC.
IRVINGTON 11, NEW JERSEY

WALTON LABORATORIES, Inc. Irvington 11, N.J.
Please mail me copy of "HUMIDITY"

NAME_____

COMPANY_____

ADDRESS_____

T.I.-11-7

GET THE "LOAD" OFF YOUR MIND WITH AIR POWER

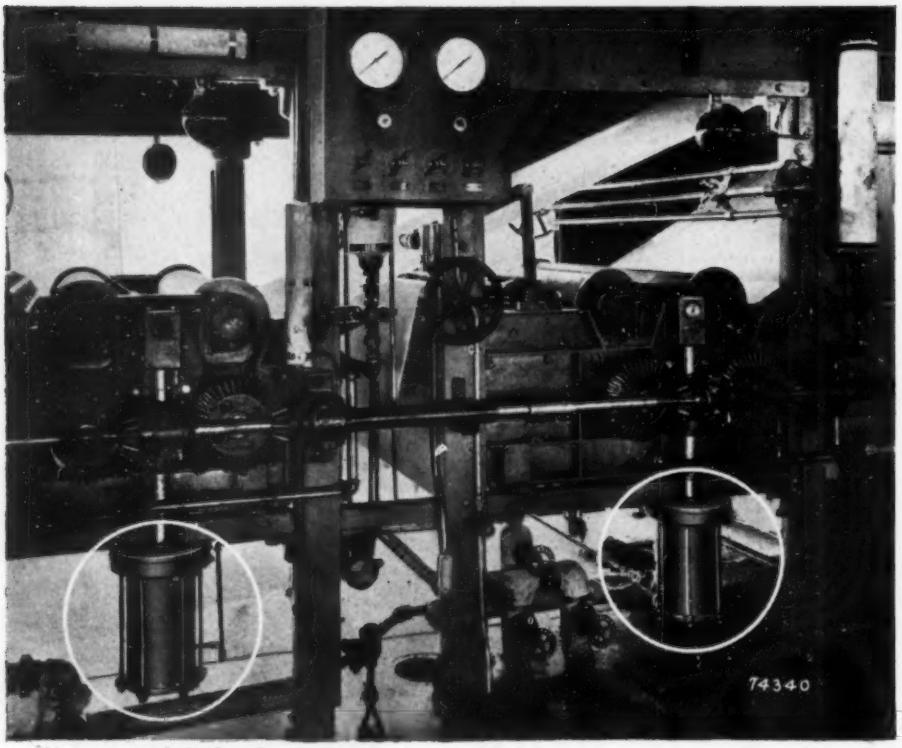


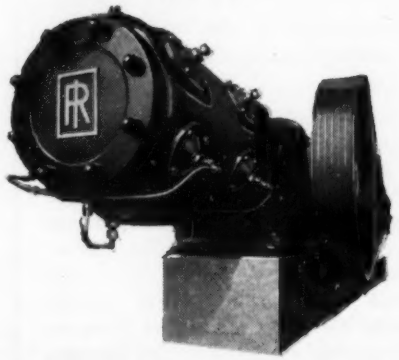
Photo courtesy the Foxboro Co.

Slasher Roll Loading is now on the growing list of textile mill jobs that are done best and cheapest with Air Power.

- ✓ Continuously automatic, compensating, cushioned, roll loading.
- ✓ Eliminates calculations, corrections, bouncing of rolls, overloading, supervision.
- ✓ Air powered cylinders and air controls take full charge.

OTHER SPOTS AIR-POWERED FOR SMOOTHER PRODUCTION AND LOWER COSTS:—

- HUMIDIFICATION
- GUIDERS
- WASHER ROLLS
- LIQUID AGITATION
- VISCOSE TRANSFER
- DRY CLEANER
- MERCERIZER
- SANFORIZER
- DYEING
- YARN CONDITIONING
- YARN DRYING
- BOBBIN STRIPPING
- KNOTTING
- CONVEYING
- CONTROLLING
- OIL ATOMIZING
- PAINTING
- HOISTING
- CLEANING MACHINERY
- CONSTRUCTION
- MAINTENANCE



There's an I-R Air Compressor in a size and type to suit the requirements of any mill. Our engineers are always ready to discuss your problems with you.

SEVENTY-FIFTH IR ANNIVERSARY

COMPRESSORS • AIR TOOLS
ROCK DRILLS • TURBO BLOWERS
CONDENSERS • CENTRIFUGAL PUMPS
OIL & GAS ENGINES

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y. I-872

W. Arthur Smith, Jr., has resigned as New England district engineer of the Torrington Co. to conduct his own business as a mill suppliers' representative in the New England area.

Robert A. Peterson, formerly associated with the Mineral Solvants Co., Chicago, Ill., has been named sales representative of the Nuodex Products Co., Elizabeth F, N. J., in the Chicago district. George H. Moyer has been newly appointed sales manager of the North Central region.

Mr. Rasor

Louis W. Rasor, formerly serving as mechanical goods representative in Toledo, Ohio, has succeeded Richard G. Abbott as district sales manager of the Goodyear Tire & Rubber Co.'s mechanical goods division at Charlotte, N. C. Mr. Abbott has become district manager at Los Angeles.

Karl H. Nonweiler, former senior staff engineer in the New York head office, has been appointed lubricants department manager for the Atlanta, Ga., marketing division of Shell Oil Co., Inc. In this position he is responsible for the sales and distribution of Shell lubricating oils and greases throughout the Southeast.

Westinghouse Electric Corp. has recently appointed John E. Payne, former manager of industrial sales, as manager of all industry sales departments with a general over-all responsibility for sales of equipment to all industries. R. S. Kersh, who has been manager of the company's Houston, Tex., office, was named manager of industrial sales, succeeding Mr. Payne. Both will be located at the East Pittsburgh, Pa., plant.

Watson & Desmond, with offices in Charlotte, N. C., Greensboro, N. C., and Greenville, S. C., have announced the formation of a New England company to be known as Makepeace, Desmond & Watson, Inc. For the present, the new corporation will have offices at Warwick Neck, R. I., and will represent several well known textile supply manufacturers.

"There's an easier way to secure a drawing frame"

Don't let machinery problems put you out on a production limb. Contact Comer . . . it's by far the simplest way to get needed textile machinery.

From opening to finishing . . . Comer has its finger on mills that want to sell just the machinery you need. OR if you have excess machinery; if you want to dispose of equipment to make way for new installations, Comer has prospects for its purchase.

Bring Comer your machinery problems — write, telephone or cable today.

"SALES AROUND THE WORLD"

COMER MACHINERY COMPANY

Cable Address: COMACH

308 Ivy Street, N. E. — Atlanta, Georgia, U.S.A.

Little things play a BIG part

. . . in low-cost yarn production

Aprons can push yarn production costs around just like tugs do a liner. They're little—but the way they fit, grip and wear is vital to production, quality and costs.

The *precision* fitting of KENTEX Aprons has earned them an enviable reputation in the textile field. Made of finest quality leather, by skilled craftsmen, they are *michrometer gauged* for thickness, width, length and circumference. *We guarantee a sure fit.*

Write for prices and free samples of KENTEX precision-built Aprons.

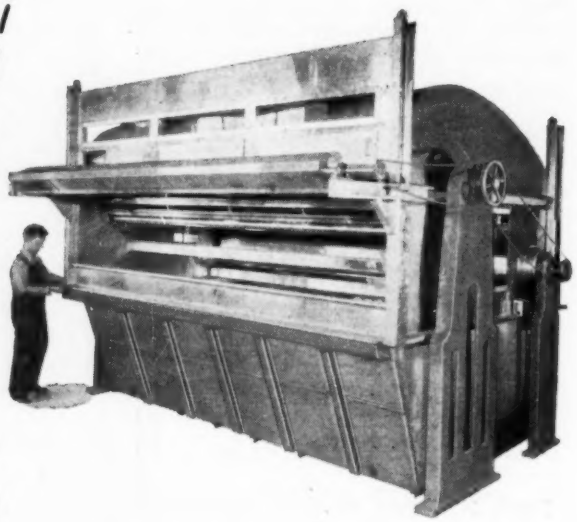
KENTEX PRECISION APRONS

TEXTILE APRON COMPANY

EAST POINT, GEORGIA

Takes *less* Time

for Loading, Heating, Lacing, Doffing, Cleaning



Gives you *More* Time *for the actual dye runs which build your profit*

AND it pays its way handsomely by cutting water and steam costs lower than ever. Everything *YOU'VE* ever wanted in a dye box has been incorporated in

The New BLICKMAN Fully Enclosed Stainless Steel Dye Box

Send for further information

S. BLICKMAN, INC.

211 GREGORY AVENUE • WEEHAWKEN, N. J.

Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks

Richard T. Spear, formerly associated with the Pan-American World Airways System, has been appointed a regional sales manager for All-State Welding Alloys Co., Inc., White Plains, N. Y., in charge of low-temperature welding and brazing alloys and fluxes. His territory includes eastern Pennsylvania, south New Jersey, Virginia, West Virginia, Delaware, Maryland, and the District of Columbia.

The "Automatic" Sprinkler Company of America has announced the organization of a new affiliate, "Automatic" Sprinklers do Brasil S/A, Sao Paulo, Brazil. This company has been established for the purpose of promoting throughout South America, the advantages of safety and fire protection. The company's authorized capital, which has been fully subscribed, is in the amount of Cr $2,000,000. President and representative of the company in Brazil is Clyde M. Wood.

James H. Binger, who since 1943 has assisted in legal and contractual work in connection with the company's war work, has been elected assistant vice-president of the Minneapolis-Honeywell Regulator Company.

Emery Industries, Inc., has announced the selection of R. T. Hull as eastern technical representative for their "Plastolein" products department. This division produces plasticizers and special fatty acids for the plastic, resin and surface coating industries. Mr. Hull was affiliated with the Mellon Institute of Industrial Research before joining the U. S. Air Corps. Now, after an extended study of the manufacture and use of these "Plastolein" products, he is making his first contacts in the field to pass on the latest research developments among these chemicals.

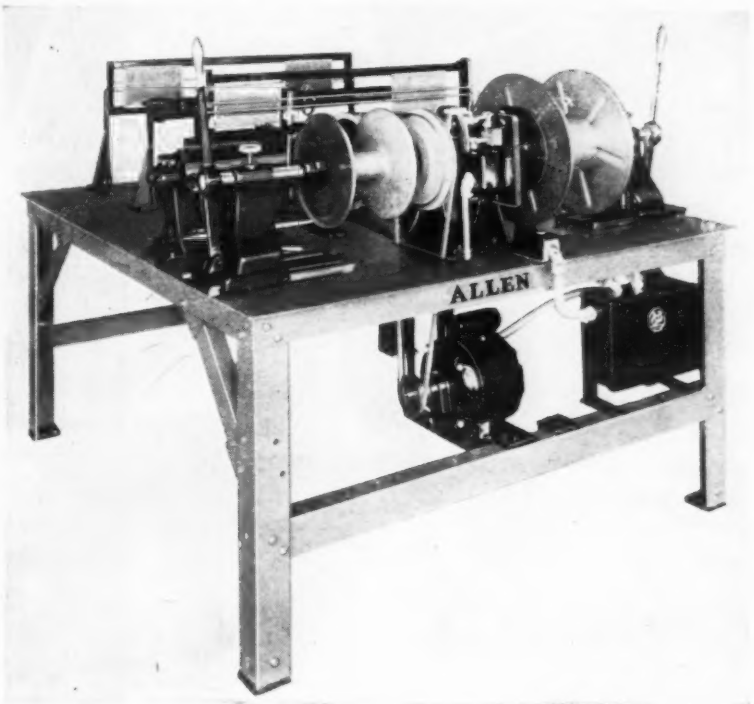
Westinghouse Electric Corp. has appointed C. P. Walker, formerly in the Atlanta office, to head the textile industry activities for the general mills section, industrial sales department in Pittsburgh, Pa.

T. D. Lewis, Jr., formerly in charge of costs, production records, and office organization for the Profile Mills, has joined the yarn department of Scheuer & Co. to be in charge of yarn sales.

M. J. Rahiya has been appointed engineering sales and service representative for Liquid Conditioning Corporation in Louisville, Ky.

Good Warps are made **on Good Beams**

We make Warper Beams for Cotton and Synthetics • • • Also Loom Beams



ALLEN Narrow Fabric Warper winds two beams at the same time

• better quality warps • faster production

• lower cost per pound

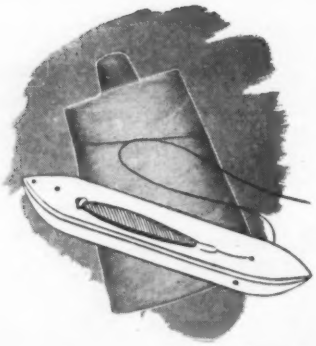
This machine is mounted on a steel table, and winds at the same time two beams, up to 15" dia. head and 10" traverse.

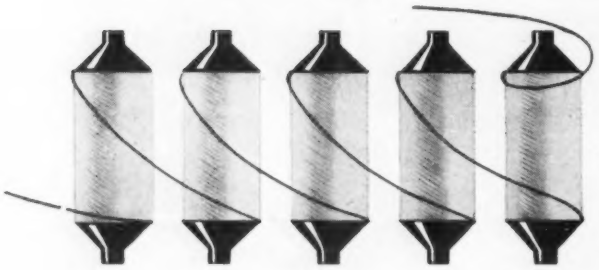
- Spindle Drive—Beams driven by positive friction drive—Beams stopped by means of an electric brake.
- Sheet Wind or Traverse Motion Devices (independent for each beam).
- Leese Reeds.
- Electric Stop Motion.
- Yarn Tension Device.
- Predetermined electrically controlled counters for each beam. Back Reeds or Eye Boards.
- ¾ H. P. Motor and Electric Control Panel for automatic operation.
- Variable Speeds for different yardage per minute.

ALLEN COMPANY

General offices—156 River Road, New Bedford, Mass.

Representatives in all Textile Localities and all Principal Countries of the World





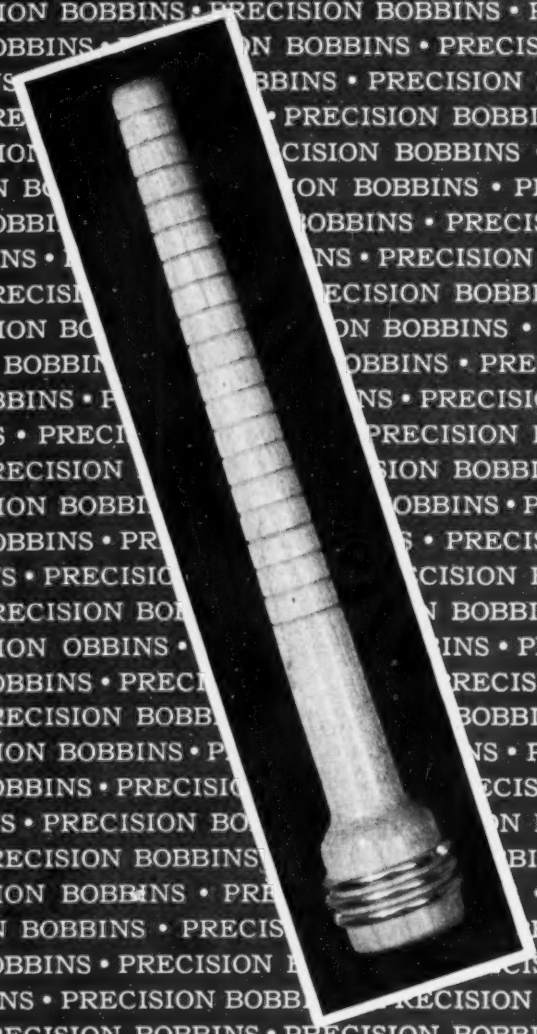
Textile ENGINEERING

Plans and designs for all types of projects related to the textile industry. Appraisals, modernization studies, machinery layouts, air-conditioning, power and water filtration plants, and other phases of textile engineering.

ROBERT AND COMPANY ASSOCIATES
INCORPORATED
Architects and Engineers
ATLANTA

TWENTY-NINE YEARS' NATIONWIDE EXPERIENCE IN INDUSTRIAL AND TEXTILE DEVELOPMENT

PRECISION BOBBINS • PRECISION BOBBINS



Engineered to operate perfectly on your own spindle. Complete control of every step in the manufacture from forest to finished product makes these bobbins true to their name—PRECISION.

Southern Representatives:

THE CHARLOTTE SUPPLY CO.
Charlotte, N. C.

HENRY H. HERSEY
Norwood Place
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443 Stonewall St., S W
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BOBBINS • PRECISION BOBBINS • PRECISION

New England BOBBIN & SHUTTLE CO.

George M. Hambleton, Gen. Mgr.
NASHUA, New Hampshire
Telephone: 2406

PERSONAL NOTES

ABOUT MEN YOU KNOW

WILLIAM H. BURROUGHS, former Burlington Mills Corp. official, has been appointed controller of Reeves Brothers, Inc., cotton textile organization.

The principal organization changes as announced by Fieldcrest Mills, Division of Marshall Field & Co., Inc., Spray, N. C., are as follows: HUGH T. BUNDY, former head of the cost department, was appointed assistant manager of the blanket, sheeting, and finishing mills, bleachery and central warehouse. He succeeds JOHN P. POWELL who has joined another textile concern. R. A. HARRIS, cost accountant for the rayon and woolen mills, was appointed head of the cost department succeeding Mr. Bundy. G. C. TRUSLOW has relinquished his administrative duties as superintendent of the finishing mill and bleachery to devote his entire time to working on certain mechanical developments of his own. FRANK T. SUTTENFIELD, former assistant superintendent of the finishing mill and bleachery, succeeds Mr. Truslow.

G. LAWSON IVIE, former assistant general sales manager, has been appointed general sales manager of Fieldcrest Mills, Spray, N. C. Mr. Ivie replaces R. T. GRAHAM who is moving to Chicago to manage the Fieldcrest Mills Chicago offices for domestics, home furnishings, and Karastan rugs.

JOHN W. SOLOMON, former owner and manager of Marjon Fashions, which he sold to Halamar Garment Co. recently, has accepted the position of sales manager of the textile division of U. S. Rubber Co. He will be headquartered in New York City.

EARLE A. CLEMENTS, former superintendent of the Globe Knitting Works, Grand Rapids, Mich., and Tricot, Inc., Cadillac, Mich., has been made superintendent of the Glenshire Mills, Inc., Penargyle, Pa., manufacturers of tricot fabrics.

EVERETT SYMES has resigned as superintendent of the Atlanta Woolen Mills, Atlanta, Ga., to accept the position of assistant resident manager of the Webster Mills of the American Woolen Co., Webster, Mass.

E. W. DUNHAM, former assistant secretary, has been elected secretary of Erwin Cotton Mills. He succeeds the late E. G. McIVER.

The appointment of DANIEL F. SHEEHY, former vice-president in charge of sales of Vanity Fair Mills, Inc., as divisional head in charge of tricot fabric merchandising, has been announced. He replaces W. T. DODGE who is now in charge of finished goods operations in the women's wear field.

Mr. Hill

W. BASIL HILL, formerly associated with Callaway Mills, LaGrange, Ga., has joined Pomona Mfg. Co. Greensboro, N. C., as resident vice-president and general manager.

JOHN P. MITZEL, former manager of the two Charlotte plants, has been named purchasing agent for Chadbourn Hosiery Mills, Charlotte, N. C. A. TINCE GLENN replaces Mr. Mitzel as manager.

DAVID MERIWETHER, former treasurer and general manager of the Tennessee Textile Co., Chattanooga, has been elected vice-president and general manager of Rockland Bleach & Dye Works, Baltimore, Md.

HASKEL M. BURTON, formerly with Mathews Mills, Greenwood, S. C., is now connected with Blue Ridge Yarn Mill, Inc., Pendleton, S. C., as night overseer of carding, spinning, and finishing.

JOHN TER BRAAK, formerly employed as assistant superintendent of Canada Cottons Limited, Cornwall, Ont., has now assumed the duties of superintendent of the cotton division of Monarch Knitting Mills, Joseph Simpson Division, Toronto, Ont.

FRED L. STILL, former general

USE RAYCO Fibers!

Just let us know *what* you want—we'll see that you get it *at just the right price.*

Whatever your requirements in comber noils, card strips, spinners and rovings (machined and unmachined), colored card strips, soiled card and cotton linters, we can meet your *exact* requirements.

We are able to offer you cotton, cotton and rayon blends; cotton, rayon and aralac blends and assorted rayon sweeps.

The RAILWAY SUPPLY & MFG. CO. and Affiliates

Specialists in Grading, Marketing and Processing Cotton and Synthetic Fibers

GENERAL OFFICES: CINCINNATI, OHIO

***Plants and Sales Offices:* Cincinnati, Ohio • Franklin, Ohio • Atlanta, Ga. • Charleston, N. C. • Covington, Tenn. • Greensboro, N. C. • Memphis, Tenn. • New York, N. Y. • Chicago, Ill. • Detroit, Mich.**

RAYCO
COTTON & SYNTHETIC FIBERS

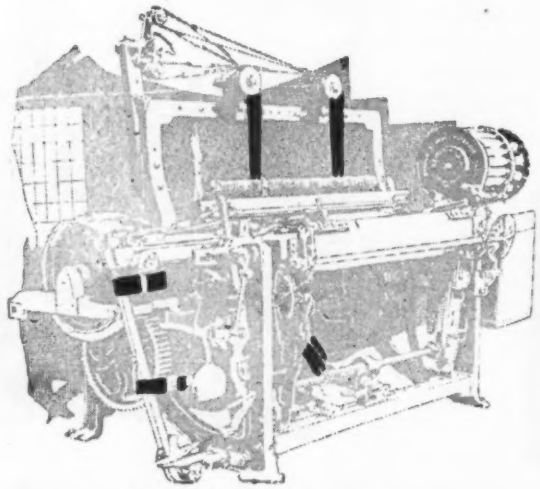
ORIGINAL and GENUINE
"The Leather with the Hair on"

Bondaron

REG. U. S. PAT. OFF.
TEXTILE

LEATHERS

QUALITY



LEATHER

Cut Your Loom Leather Costs In Half!

Taken individually, Textile Leathers are comparatively inexpensive items. However, when the costs of all the leathers used during the past several years are added up, and losses of time due to stoppages for replacements, cost of broken picker sticks caused by poor lugs, etc., are figured in, the total is large.

If you could cut this total IN HALF—simply by switching to "BONDARON" Leathers—wouldn't you do it?

They are only slightly higher priced than ordinary leathers, yet they consistently wear from 3 to 5 times longer. Send us a trial order today and prove them on your own looms.

THERE'S REAL ECONOMY IN STANDARDIZING ON BOND TEXTILE LEATHERS!

Bondaron, Bondural and Bondex Leather Products—

Check Straps
Lug Straps
Harness Straps
Picker Straps
Spindle Straps
Shuttle Straps
Loom Pickers
Cone Belts
Round Belting
Flat Belting
Spinner Belting
Twister Cots
Condenser Aprons
Worsted Aprons
Bunters
Picker Leathers
Apron Leathers
Belting Butts
Oak Tan Slabs
Lace Leather
Valve Leather
Back Straightenings
Filleting Leather
English Sheep Skins
Persian Sheep Skins
English Roller Bends
English Calf Skins

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CHARLES **Bond** COMPANY
617-623 ARCH STREET PHILADELPHIA, PA.
Manufacturers of Textile Leathers for Nearly Half a Century

DARNELL CASTERS

Built-in quality assures a long life of efficient service—it pays to "Demand Darnell Dependability".

A SAVING AT EVERY TURN

DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST., NEW YORK 13, N.Y.
36 N. CLINTON, CHICAGO 6, ILL.

GUARANTEED LEAK-PROOF "DIAMOND"

REVOLVING JOINTS

permanently end leaking and stuffing box trouble on all kinds of

Steam-Heated and Water-Cooled Rolls
No tight packing to act as brake on roll.

Patented construction. Many in use 10 years or more. Specially compounded molded gasket lasts up to 15 months in severest service — easy, quick and inexpensive to replace. We also manufacture leak-proof SWING JOINTS and BALL JOINTS. Bulletin and price list upon request.

406 Market St. • DIAMOND METAL PRODUCTS CO. • St. Louis 2, Mo.

TESTED IS TRUSTED

It answers the $64 Question

"Is it up to specifications?" — your *Scott Tester gives you a definite answer, expressed in a "picturized" graph which is literally read. Our many models test for tensile, hysteresis, adhesion, compression-cutting, twist, flexing, state-of-cure, etc.

*Registered **SCOTT TESTERS** Trademark

SCOTT TESTERS, INC. 60 Blackstone St. Providence, R. I.
Standard of the World

manager of the Smitherman Cotton Mills, Troy, N. C., has been elected secretary and treasurer. W. L. GRIMSLEY has been made assistant secretary and treasurer of the concern.

J. G. SHEDD, former superintendent of the No. 3 and 4 mills in the fine goods division of Dan River Mills, Inc., Danville, Va., has accepted the position as manager of Monarch and Ottaray plants of Monarch Mills, Union, S. C.

THOMAS BURNS has been appointed overseer of spinning at Pierce Bros. Ltd., New Bedford. Mass., succeeding GEORGE SARGEANT, resigned.

ROBERT H. WELLWOOD has been made superintendent of the yarn mill and WILLIAM J. MORRISSEY superintendent of the finishing plant of Griswold Mills, Voluntown, Conn.

PETER A. BEDDOW, former plant manager of the Lowell, Mass., plant of Textron, Inc., which is now winding up operations, is now general manager of the Manchester, N. H., plant of that company.

HENRY V. TAPPER is now personnel manager of Ashland Corp., Jewett City, Conn., succeeding BRADLEY DEARINGTON, who has been promoted.

Obituaries

GEORGE G. GUENTHER, founder of the George G. Guenther Hosiery Co. and Reading Maid Hosiery Mills, of which he was treasurer, died at his home in Reading, Pa., September 21 at the age of 82.

MAURICE G. TOWNEND, 47, manager, director, and vice-president of the Charlotte office of Parks-Cramer Co., Fitchburg, Mass., died suddenly September 24.

FRANCIS S. MOORE, 77, overseer of spinning at the Crescent Woolen Mills, Two Rivers, Wis., passed away September 2 in Two Rivers.

HERMAN GARDNER, president of Phoenix Hosiery Co., died recently after a brief illness in Milwaukee, Wis., while on his way to New York.

J. LEWIS GODFREY, secretary-treasurer of the Bloomsburg Hosiery Mills, Inc., passed away recently at the age of 61.

WHAT THE TEXTILE MILLS ARE DOING

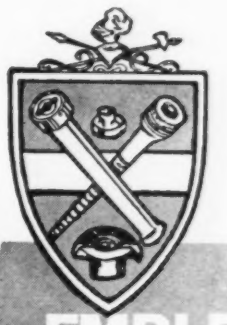
Textron, Incorporated, New York, N. Y., plans to spend $4,000,000 on plant improvements. Most of the new equipment is being installed in the company's New England mills.

The firm of Concordia - Gallia Corp., engaged in throwing synthetic yarn, converting rayon fabrics, and weaving narrow fabrics, is in the process of liquidating its business. The assets of the velvet, millinery fabrics, narrow fabrics, and throwing divisions of this company have been purchased by the Martin Fabrics Corp., a subsidiary of the J. B. Martin Co., Norwich, Conn. The executive and selling offices of the purchaser will remain at the former headquarters of Concordia-Gallia Corp.

It has been announced that Duplex Fabrics Corp. has commenced liquidation of its affairs, and in connection therewith, Burlington Mills Corp., New York, has acquired certain assets of Duplex and has engaged its key personnel.

Sherman (Tex.) Mfg. Co., ducking, drilling, and sheeting for industrial use, has an expansion program underway which will increase mill floor space 50%, up employment from 235 to a probable 300, and introduce modern textile machinery. The company has gone underground for added space, and the basement will provide a weaving room.

National Dyeing & Finishing Corp. has purchased land on the Hayden Industrial Tract in Culver City, Calif., to be the site of a new plant. The structure will house a two-story office section in the front and a one-story and warehouse at the rear. The original one-story building was destroyed by fire last July. Approximately 75% of the machinery for the plant will be purchased new, while



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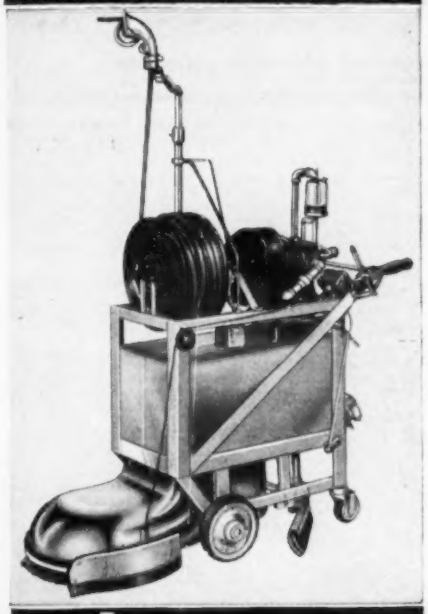

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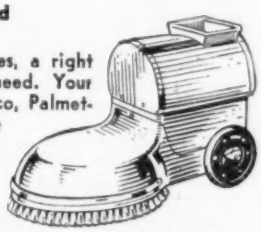

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the remainder was salvaged from the fire.

Harry Ball & Son is a recently organized cotton and rayon lining converting concern catering to the men's and boys' wear trade. The principals in the company are Harry Ball and his son, Marvin Ball.

Fulton Bag & Cotton Mills, Atlanta, Ga., sheetings, ducks, prints, etc., have plans to build three one-story warehouse buildings, instead of the previously proposed single structure.

Continental Mills, Lewiston, Me., broadcloths, pongees, etc., have announced that they will carry out further expansion in the mills in the near future, with installation of additional machinery and facilities to cost about $450,000. The company has expended approximately $490,000 in similar work during the past year.

Smith-Cobb, Inc., Queens Village, L. I., N. Y., has been organized with a capital of 198 shares of stock, no par value, to operate a local textile print and dye works.

Verney Corp., Warwick, R. I., rayon products, etc., has let general contract for a one-story addition to the dye works at East Greenwich, R. I., which is reported to cost over $75,000, with equipment.

Cherokee Textile Mills, Knoxville, Tenn., fancy shirtings, handkerchief cloth, etc., have approved plans for a one-story addition for expansion in the spinning department. The cost is estimated to be about $50,000, exclusive of equipment.

The Merrimack Mfg. Co., Lowell, Mass., corduroys, velveteens, etc., has been carrying out an expansion program at the mill and increased capacity is proposed. Additional workers are being employed.

Lippitt Worsted Mills, Woonsocket, R. I., have plans for a one-story building for mill service. No estimated cost has been announced.

New Braunfels (Tex.) Textile Mills, Inc., gingham, dress goods, shirtings, etc., has asked bids for the erection of a one-story addition, to be equipped as a dye house. No estimate of the cost has been stated.

Franklin Finishing Co., Inc., is a new organization in the former building of the Crew Piece Dye Works, Paterson, New Jersey. Peter Fiory, president and general manager, is the former owner of Oxford Finishing Co., Oxford, New Jersey. Elizabeth Fiory is secretary and treasurer.

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6. SERVING THE TEXTILE INDUSTRY—Illustrated booklet on services of textile and industrial consultants in assisting mill management.—WERNER TEXTILE CONSULTANTS, INC., New York 17, N. Y.

7. RAYON TELLS ITS STORY TO THE PUBLIC—Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, New York 1, N. Y.

8. WHAT DOES A FACTOR DO — Illustrated booklet with case histories.—MEINHARD GREEFF & CO., INC., New York 10, N. Y.

9. TESTING IN MODERN INDUSTRY—This booklet includes many useful tables, conversion factors, equivalent yarn sizes and other information helpful in textile mills. Also describes specialized testing service. Available free to mill men on request.—UNITED STATES TESTING CO., Hoboken, New Jersey.

PLANT AND PLANT MAINTENANCE . . .

102. "TANK TALK"—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

108. RIHCO TYPE B HUMIDIFIER HEADS—Bulletin describes new atomizers with construction lessening air consumption. — ALDRICH MACHINE WORKS, Greenwood, S. C.

115. ATOMIZER HUMIDIFIERS—Recent issue of "Parks' Parables" on Turbomatic self-cleaning humidifiers, and automatic regulation — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

129. BAHNSON CENTRIFUGAL HUMIDIFIER—Bulletin 327 describes this completely self-contained industrial humidifier which requires only water feed and drain and electrical connection to install.—THE BAHNSON COMPANY, Winston-Salem, N. C.

132. ROOF, WALL AND FLOOR INSULATION—Illustrated booklets on uses of PC Foamglas Insulation and describing its waterproof, fireproof and permanent insulating properties. — PITTSBURGH CORNING CORP., Pittsburgh 22, Pa.

135. SAFETY COLOR CODE—How six standard colors can be used to reduce hazards, cut down accidents.—E. I. DU PONT DE NEMOURS & CO., INC., Finishes Division, C44, Wilmington, Dela.

138. MAGNESIUM IN THE TEXTILE INDUSTRY—Illustrated booklet on properties of magnesium for spinning, twisting, winding, knitting machines, looms, beams, spools, bobbins.—ALUMINUM CO. OF AMERICA, Pittsburgh, Pa.

151. INDUSTRIAL BRUSHES—Illustrated Booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS SONS, INC., Cedar Grove, N. J.

152. AIR CONDITIONING FOR THE TEXTILE INDUSTRY—40-page illustrated book covering air conditioning from humidity control to complete refrigerated conditioning with installations, charts, covering ABC's of cooling textile mills.—CARRIER CORP., Syracuse, N. Y.

155. GLASS BLOCKS—28-p. booklet with illustrations, engineering data, patterns PC glass blocks. —PITTSBURGH CORNING CORP., Pittsburgh 22, Pennsylvania.

156. ALL-OUT DRY CHEMICAL EXTINGUISHER—Describes this new chemical extinguisher which contains a special powder injected by gas pressure which is an effective means of controlling surface fires in textile fibers.—ALL-OUT MANUFACTURING CORP., New York 16, N. Y.

159. BAHNSON HUMIDUCT SYSTEM — Bulletin 330 describes this unit system of air conditioning for humidifying, cooling, heating, ventilating, filtering, and dehumidifying in any desired combination. —THE BAHNSON CO., Winston-Salem, N. C.

160. INSTALLING MACHINERY WITHOUT LAG SCREWS OR BOLTS — Booklet describing use of UNISORB pads for anchoring all types of machinery. —THE FELTERS COMPANY, Boston, Mass.

161. ALL-OUT'S EXTINGUISHING ACTION—Describes fire extinguishing action that is such that operators can approach fire without hindrance by extreme radiant heat. The extinguishing material remains on heated surfaces preventing reflash.—ALL-OUT MANUFACTURING CORP., New York 16, N. Y.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs, as well as preserving textile mill floors.—G. H. TENNANT COMPANY, Minneapolis 11, Minn.

163. LAWLOR FLOOR MACHINES — Illustrated pamphlet containing specifications and describing All-Purpose Floor Machines.—THE SELIG COMPANY, Atlanta, Ga.

165. SELF-LOCKING NUTS — Illustrated folder lists complete dimensions of standard hex nuts available in sizes from No. 4 machine screw to 1⅛" S.A.E. and U.S.S. and describes the outstanding features of ESNA Elastic Stop Nuts.—ELASTIC STOP NUT CORP. OF AMERICA, Union, New Jersey.

166. OAKITE PLANT MAINTENANCE DIGEST—A 16-page manual describing materials and methods for handling 54 recurring maintenance cleaning and related tasks in factories and mills.—OAKITE PRODUCTS, INC., New York 6, N. Y.

167. DU PONT COLOR CONDITIONING FOR INDUSTRY—Booklet, color used to reduce maintenance costs, increase production, curtail fatigue, improve employee morale. — E. I. DU PONT DE NEMOURS & CO. (Inc.), FINISHES DIVISION, Wilmington, Delaware.

168. DIAMOND VULCANIZED FIBRE HOLLOW WARE—Catalog HW-11 describing and illustrating boxes, trucks, cans, barrels, baskets, and trays made of Diamond Fibre for use in textile mills.—CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

170. WHY IT PAYS TO ANCHOR YOUR MACHINE WITH UNISORB—Illustrated booklet discussing control of vibration and noise and how UNISORB reduces maintenance costs.—THE FELTERS CO., Boston, Mass.

171. SULLIVAN T8-WG9—Illustrated bulletin describing the Sullivan line of heavy duty air compressors.—SULLIVAN DIVISION JOY MFG. CO., Pittsburgh, Pa.

172. VENTILATING FANS—Bulletin 3339 gives facts on Buffalo Ventilating Fans. — BUFFALO FORGE CO., Buffalo, N. Y.

173. HUMIDITY—This booklet includes data on Walton Humidifiers and discusses problems of handling new fibers and other changed conditions in mills.—WALTON LABORATORIES, INC., Irvington 11, N. J.

175. MOISTURE—Illustrated Folder, "The Yarn Conditioning System for the Textile Industry of Tomorrow."—KEARNY MFG. CO., INC., Kearny, N. J.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

210. GOODYEAR MECHANICAL RUBBER GOODS CATALOG—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill.—GOODYEAR TIRE & RUBBER CO., Akron, Ohio.

211. JOHNSON BRONZE CATALOGUE NO. 480—Shows over 850 sizes of cast bronze bushings, 350 sizes of UNIVERSAL Bronze Bars and over 250 Electric Motor Bearings. — JOHNSON BRONZE COMPANY, New Castle, Penna.

212. GATES TEXTILE ACCESSORIES — Showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions.—THE GATES RUBBER COMPANY, Denver, Colo.

216. LEATHER BOOKLET NO. 202 — Attractive booklet illustrating and describing BONDARON Special Tanner Leather as used in various forms such as Check Straps, Solid Bound Leather Belting, Flat Belting.—CHAS. BOND CO., Philadelphia, Pa.

218. BALL BEARINGS ON TEXTILE MACHINERY—Catalog 9 gives advantages of ball bearings, describes types, illustrates each type of textile machinery.—THE FAFNIR BEARING CO., New Britain, Connecticut.

225. BRONZE BEARINGS—64 page catalog of standard sizes of textile and industrial bearings, graphited oil-less bearings, bronze bars, babbitt metals.—THE BUNTING BRASS AND BRONZE CO., Toledo, Ohio.

231. V-BELT ENGINEERING DATA BOOK—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. — MANHATTAN RUBBER MANUFACTURING DIV. of Raybestos-Manhattan, Inc., Passaic, N. J.

235. JOHNSON LEDALOYL BEARING BRONZE—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

236. LEATHER BELTING CALCULATOR—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

237. FAFNIR BALL BEARINGS FOR THE TEXTILE INDUSTRY—Outlining the application and advantages of ball bearings on textile machinery.—FAFNIR BEARING CO., New Britain, Conn.

244. TEXACO SPINDURA OILS—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., New York City.

246. CUTTING OPERATING COSTS—Nationwide Illustrated Survey showing how American textile mills cut operating costs with Multiple V-Belt Drives.—GATES RUBBER CO., Denver, Colorado.

258. VARIABLE SPEED CONTROL UNITS—Complete information on Reeves Variable Speed, including Transmission, Vari-speed motor pulley and Motordrive. Includes examples, illustrations, diagrams, engineering tables. Catalog G-450A.—REEVES PULLEY COMPANY, Columbus, Ind.

263. NEEDLE ROLLER BEARINGS—Catalog Engineering and Application Data Edition 32 contains full data on selection of proper Needle Roller Bearings and outlines uses of such in various commodities including textile uses, types, installations, lubrication, etc. — TORRINGTON COMPANY, Torrington, Conn.

264. NEW DEPARTURE SHOP MANUAL—Illustrated catalog showing ball bearing mounting and maintenance practice. Covers storage, cleaning, lubrication, types of bearings.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

265. INTERCHANGEABLE BALL BEARINGS FOR REPLACEMENT—Charts showing numbers used by manufacturers to identify bearing characteristics, also information on specifications.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

268. THE LUBRIPLATE SERVICE HANDBOOK—Attractive 28-page illustrated book containing valuable information concerning the important subject of lubrication and setting forth complete recommendations of LUBRIPLATE lubricants for application to all types of machinery.—FISKE BROTHERS REFINING CO., Newark 5, New Jersey.

269. LUBRICATION AND MAINTENANCE OF BALL AND ROLLER BEARINGS—Illustrated bulletin describing efficiencies and economies of NON-FLUID OIL for all types ball and roller bearings.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

270. MANHATTAN FLEXLASTICS — Illustrated booklet describing how flexlastics are used in the Manhattan and Condor line of belting and mechanical rubber goods.—MANHATTAN RUBBER DIVISION, Passaic, N. J.

271. CARDING, SPINNING AND WEAVING LUBRICATION—Informative bulletins describing advantages of NON-FLUID OIL over ordinary lubricants for the lubrication of carding, spinning and weaving machinery.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

272. HOUGHTON LUBRICATION CHART — Attractive chart listing lubrication recommendations for all mill departments and various textile machines.—E. F. HOUGHTON AND CO., Philadelphia, Penna.

274. MOCCASIN OIL DISTRIBUTING CARD CYLINDER BEARINGS—Illustrated folder No. 2-47 describing a successful method for lubricating troublesome card cylinder bearings. Diagram shows suggested piping layout.—MOCCASIN BUSHING COMPANY, Chattanooga, Tenn.

275. GEM OILERS—Leaflet showing construction features, capacities, etc., of flexible spout welded steel oilers.—GEM MFG. CO., Pittsburgh, Pa.

276. SPEED CONTROL—Bulletin 20B6051G describes Texrope variable speed drives. — ALLIS-CHALMERS MFG. CO., Milwaukee 2, Wis.

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307. THERMOMETER AND PRESSURE GAUGES—Catalog 6705-R and 6706 give data on both circular and rectangular case pressure type thermometers for indicating, recording and controlling processing operations in textile industry.—BROWN INSTRUMENT COMPANY, Philadelphia, Pennsylvania.

311. PIPING POINTERS—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips.—CRANE CO., Chicago, Ill.

314. MOISTURE CONTENT CONTROL — Bulletin F-1705-1 giving details of features and benefits of moisture equipment control for slashers and textile application. — BARBER-COLMAN CO., Rockford, Ill.

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317. POWELL VALVES FOR CORROSION RESISTANCE—20-Page booklet which briefly describes and illustrates the very complete line of Powell Valves available in a large variety of metals and alloys to handle all corrosive fluids—to help solve flow control porblems where corrosion may be encountered.—THE WILLIAM POWELL CO., Cincinnati 22, Ohio.

319. KMC TEXTILE PSYCHROMETER — Leaflet No. 588 describing a spot check instrument for determining quickly the moisture contents in textiles and relative humidity.—KEARNY MFG. CO., Kearny, N. J.—Greenville, S. C.

320. OAKITE POWER PLANT DIGEST—A 20-page manual describing materials and methods for

handling 71 cleaning, degreasing, descaling, derusting, paintstripping and related operations encountered in power plants.—OAKITE PRODUCTS, INC., New York 6, N. Y.

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419. **TEXTILE APRONS**—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Ga.

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431. **HYGROLIT YARN CONDITIONING SYSTEM**—General description of conditioning cotton, spun rayon, woolens, worsteds for twist setting, lubrication, moisture retention.—KEARNY MANUFACTURING COMPANY, INC., Kearny, N. J.

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434. **WINDING MACHINES—WORK LOAD CALCULATIONS**—Reprints of series on winder operations from labor standpoint.—UNIVERSAL WINDING CO., Providence, R. I.

436. **MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER** — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTERS, INC., Providence, R. I.

437. **SPINDLE TAPE LACING EQUIPMENT**—Circular No. 54 illustrating and describing the Clipper method of joining spindle tapes.—CLIPPER BELT LACER CO., Grand Rapids 2, Mich.

438. **PRECISION WINDER FOR SALES YARN**—Illustrated booklet describing the many uses of the versatile Universal No. 50 winder in putting up sale yarn, thread and twine on precision packages.—UNIVERSAL WINDING CO., Providence 1, R. I.

439. **CONDENSER TAPE LACING EQUIPMENT**—Circular No. 55 illustrating and describing the Clipper method of joining condenser tapes.—CLIPPER BELT LACER COMPANY, Grand Rapids 2, Mich.

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442. **JOANNA ALUMINUM SPINDLE ADAPTER**—Information regarding this new spindle adapter for straight or tapered type paper tube spinning from old spindles.—F. L. REGNERY CORP., Chicago, Illinois.

443. **COMPARATIVE YARN TABLE**—Chart giving woolen number (cut and run system) also cotton, worsted and metric system; also, Comparative Rayon Denier Yarn Table.—VICTOR RING TRAVELER CO., Providence, R. I.

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445. **ROLLER BEARING SPINDLES**—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described.—THE MARQUETTE METAL PRODUCTS CO., Cleveland, Ohio.

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448. **NUMO AUTOMATIC SPINNING CONTROL**—Illustrated literature describing the new automatic spinning control that gives uniform size, uniform tail and many other benefits.—NUMO MACHINE & ENGINEERING CO., Charlotte, N. C.

449. **FOSTER BULLETIN A-95** — Describes the modern Foster Model 102 winder that eliminates ribbon wind.—FOSTER MACHINE CO., Westfield, Mo.

WEAVING, SLASHING . . .

502. **TEXTILE COUNTERS**—Catalog T37 describing pick counters for looms, hank counters for spinning, yarnage counters for cloth loom, etc.—VEEDER-ROOT, INC., Hartford, Conn.

505. **NOTES ON COTTON WARP SIZING**—A 45 page handbook giving valuable data on the purposes and properties of various sizing products, their uses and preparation, with much information on the operation of slashing equipment. Will help solve many sizing problems. Address THE HART PRODUCTS CORP., New York City.

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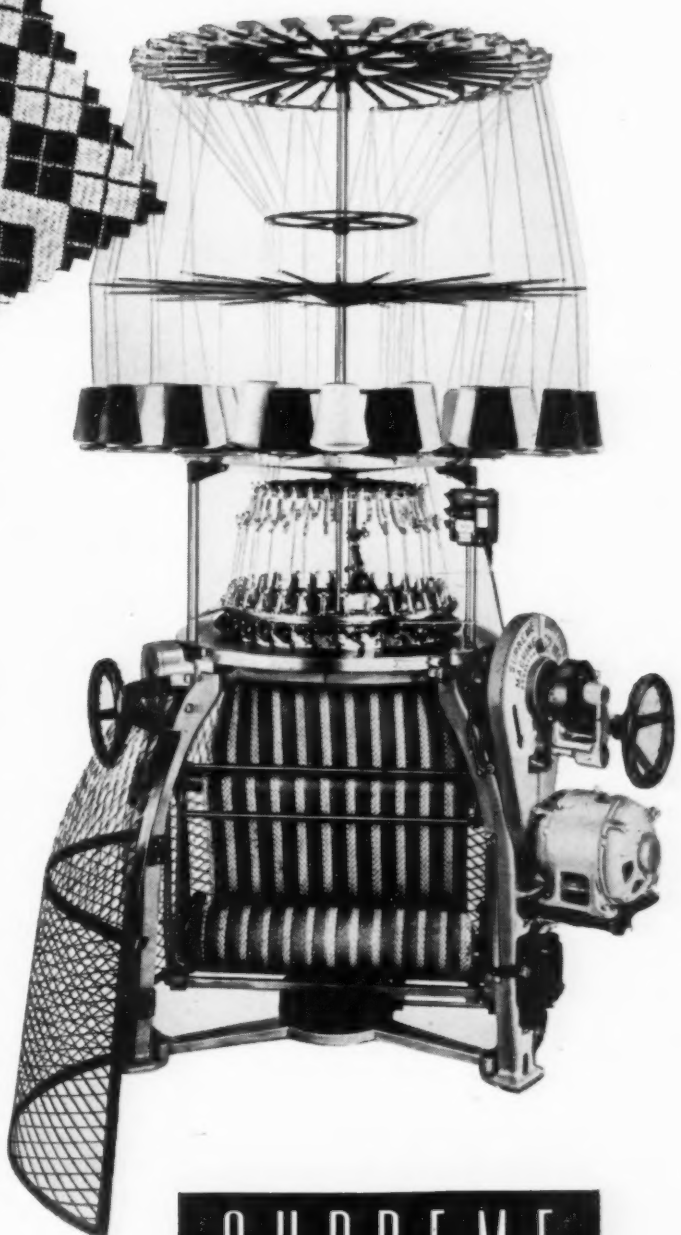

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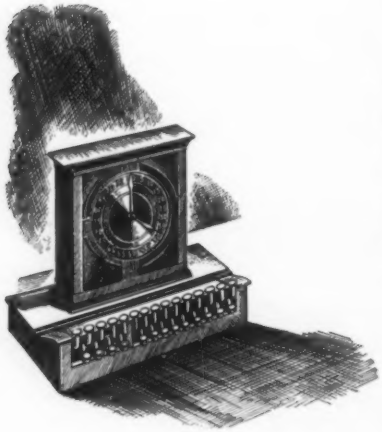
Famous Firsts



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Komet Links & Links Machines

New Attachments and Improvements

Article 2*

By K. O. METZ

A discussion of some changes on Komet and Links and Links machines. These changes, though minor in nature, prove major in value, as described here.

IN OUR FIRST article on new attachments and improvements for the Komet Links and Links machine, we discussed the eyelet closing device in detail. In addition to our personal comments concerning its construction, operation and adjustment, written instructions pertaining to its installation, and blueprints showing the respective parts in detail (supplied by the machine builders) were reproduced. All new machines come equipped with the eyelet closing device, which is no longer considered an extra attachment but has been added to the standard equipment.

In this article we shall discuss some of the changes and improvements found on late model machines.

Minor Changes of Major Value

Take a new Links and Links machine out of its crate and the very first thing you will notice is the change in color; grey in place of the usual black. Assemble the various parts and start the machine up and you will begin to notice some minor changes the first day or two. After two or three weeks you will have found additional changes and improvements.

We said *minor* changes for, from a purely mechanical viewpoint, they are just that. Study these changes from various angles and ask yourself *why* the machine builders make them, and you will agree that though they are *minor* in nature they are *major* in value.

To be of real value, changes in the controlling mechanism of any machine should in some way help to increase production. This can be accomplished only by making changes which will prevent mechanical difficulties. In other words, the improvements should eliminate the causes of breakdowns.

Allen Head Screws Eliminate Trouble

Turn to Plate No. 11 in your parts catalog, and note the push rods 302104, and 302105. These rods are supplied with a collar 302817, located between the push rod spring and the adjustable ends 304811 and 304810. On old models these push rod collars are supplied with a headed machine screw, No. 15274. On late models, Allen head cup end screws are used in the push rod collars.

Will this minor change help? It certainly will. When push rod collars slip, the double feed mechanism fails to function properly, and the damage caused may not be severe but there will be losses in production. How much production will be lost will depend entirely on how long it will take the machine fixer to locate the cause of trouble, correct it, and get the machine going again.

Two Allen head screws put in the right place and tightened securely actually help increase production by eliminating the cause of avoidable difficulty. Just a minor improvement will pay dividends in more ways than one.

New Type Washer Solves a Problem

Turn to Plate No. 3 in your parts catalog and note the main shaft 302207, washer 302312, lock washer 15866, screw 15488, driving bevel gear 101413, and bevel gear key 202926. When the above parts are assembled, the bevel gear is mounted on the end of the main shaft. The shaft key is held in position by screw 15252 which goes through the hub of the bevel gear and into the key. Thus the bevel gear is not rigid on the main shaft, and the driving load is carried by the key and key seats in the bevel gear and shaft.

The bevel gear is partially held in position by screw 15488, lock washer 15866, and washer 302312, but when screw 15488 is tightened securely, the end of the main shaft will not be flush with the outer end of the bevel gear hub. Thus shaft screw 15488 carries part of the load.

Frequently we find screw 15488, lock washer, and washer 302312 missing entirely, which permits the bevel gear to move back and forth according to the amount of end play there might be. In some instances the key screw 15252

*Article 1 of this series appeared in the September 1947 issue, page 185.

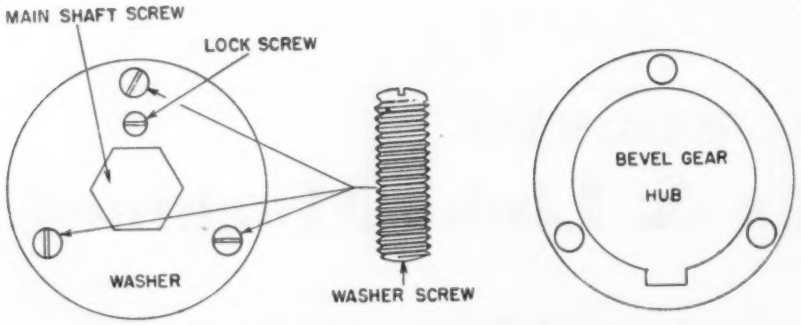


Fig. 6. To overcome the problem of having screw 15488 work loose and fall out or break off, late model machines are supplied with a new type washer equipped with three adjustable screws, plus the usual set screw 15488, as shown in the sketch above.

would work loose and drop out, thus permitting the key to work out sufficiently to strike the bevel gear housing.

Screws Broken or Missing

Occasionally we found the screw 15488 broken off and part of it still in the end of the main shaft. It was a minor job to replace missing screws and washers or remove broken screws. We had no particular trouble with machines running with screws missing, but it is quite natural to assume that the driving bevel gear and the driven bevel gear above it will not mesh properly when screws and washers are missing.

There was some dispute among our Komet fixers as to what was causing the screw 15488 to work loose and fall out or break off. The writer feels it is caused by a small amount of play in the key seats, which either loosens the screw 15488 during reciprocative motion of the driving bevel gear, or tightens the screw to the breaking point.

Whether we are right or wrong is not important; the machine builders have overcome this trouble on late model machines by supplying a new type washer equipped with three adjustable screws, plus the usual set screw 15488. Note Fig. 6.

The new washer has three threaded screw holes with corresponding threaded holes in the outer end of the hub on the driving bevel gear. Thus the washer turns with the bevel gear, the screw 15488 goes through the washer as usual and is provided with an additional lock screw, flush against the head of screw 15488 which prevents the latter from working loose.

This new arrangement permits adjusting or placing the driving bevel gear properly on its shaft, thereby assuring proper meshing of driving and driven gears. Just another minor improvement which helps to keep your Komets rolling.

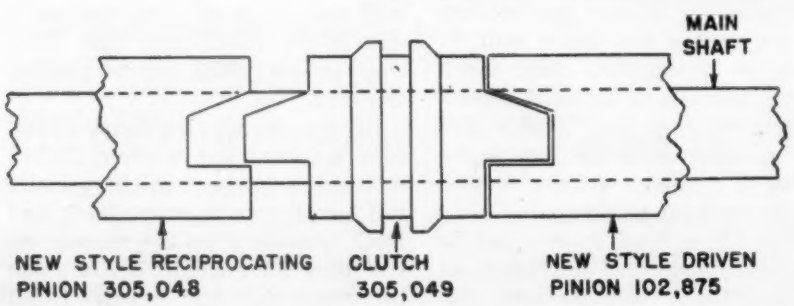
New Type Clutch and Pinions

Turn to Plate 3 in your parts catalog and note the clutch 101457, driven pinion 101456, and reciprocating pinion 101458. These parts have been redesigned and late model machines are equipped with a clutch and pinions as shown in Fig. 7. On old style clutches, the prongs on the clutch and the recesses in the pinions are tapered on both sides. On new style clutches, the forward sides of both pinions and the clutch are still tapered, but the rear is *flat* or straight across, as shown in Fig. 7.

We do recall some cases of broken driven pinions on early models of 4″ machines. These particular pinions were made of cast iron, and all broken cast iron pinions were replaced with steel pinions, free of charge, by the factory. We have not had a single broken pinion on a fine guage machine to date, and in our opinion, the old style clutch and pinions have stood up exceptionally well.

A similar type of clutch shifting mechanism has been in use on several different makes of circular machines for a great many years, and still is. Just why the machine builders made this change we do not know, but we do know from actual experience that the new style clutch and pinions are definitely a valuable improvement.

Fig. 7. Late model machines are equipped with clutch and pinions as shown below.



Old Style Clutch Drags

One of the disadvantages of the old style clutch on any make of circular machine is its tendency to drag in while shifting, especially if and when the timing is a bit late. The average machine fixer will rarely think of advancing the timing of the clutch to compensate for lateness caused by normal usage until it begins to jam, makes too much racket while shifting, or refuses to shift at all.

On some Komet models, advancing the timing of clutch shift means advancing the quality drum also and this may invite trouble. So, the fixer decides as long as the clutch shifts, leave well enough alone. This leads to clutches dragging in due to late timing, which brings unnecessary wear on clutches, pinions shifting cams, clutch forks, rollers, etc.

On other Komet and all Links and Links machines the clutch shifting can be *advanced* and the quality drum can be *retarded* a like amount, thus avoiding com-

For Quality Seaming

THE "SUPERLOCK"

Faster than the fastest overseaming machine yet devised—provides the ultimate in production facilities at low cost.

There is no finer medium for beautiful overseaming, hemming, overedging and serging on a wide variety of fabrics, than the "Superlock."

Bulletin 828 gives detailed information on the "Superlock" — Write for your copy today.

WILLCOX & GIBBS SEWING MACHINE CO.

214 West 39th Street, New York 18, N. Y.

plications in timing. On any Komet or Links and Links machine equipped with adjustable quality drums, there is no excuse for laxity in keeping clutches properly timed so they will shift smoothly and not drag in.

Normal usage on old style, tapered clutches will in time prevent the clutch from making a full shift to the right or left, which means lost motion. One factor, which we never considered until we saw a new style clutch, is the tendency of the old style clutch pinions to force the clutch out, thus adding a load to the mechanism which holds the clutch *in* after the shift is made. It is quite obvious that tapered surfaces of the clutch prongs and the recesses in the pinions create the tendency described. We are not attempting to condemn the old style clutch; we repeat that it is standing up exceptionally well, but we are trying to answer one question—why was the change made? The answer must be to *improve*.

New Style Clutch

Now let's look at the new style clutch and pinions as shown in Fig. 7. The first thing we had to learn about this new style clutch is that its timing must be accurate. It will shift nicely if timed a bit early, but late timing is out. The reason for this is obvious. When shifting the lower straight surfaces on the clutch, prongs must get into the recess in the pinions. Dragging in is out of the picture. Shifting must be timed right, or late shifting will permit the clutch prong to jam against the pinion.

The straight surfaces permit freer and easier shifting than on old style clutches, especially when going on the heel and toe. We also notice that there is less lost motion while reciprocating and considerably less load on the various parts which hold the clutch *in* after the shift is made. We have studied this new style clutch from every angle, and there is no doubt in our mind that it will give even better service than the old style clutch, which is saying a lot indeed.

Some Comments on Clutch Timing

We stated earlier in this article that the average Komet fixer will leave well enough alone, in so far as clutch timing is concerned, for fear of inviting other trouble, so long as the clutch shifts without jamming. "Let it ride" is the general attitude.

From constant use, the racking pawl is bound to become worn. A 1/32″ gap in the pawl means the clutch is shifting late and the quality drum is also 1/32″ late. The sensible thing to do is to retard the clutch drum rack wheel 1/32″ to compensate for the slightly worn racking pawl. This simple adjustment, requiring but a few minutes, will put clutch timing and quality drum timing back in their original positions.

When the quality drum timing is late, the motion supplied by every cam on the drum will be late and this can lead to various kinds of trouble. Normal operation of any Komet means that some of the parts which supply drum movement will become worn. Ample adjustment facilities are provided to compensate for normal wear. It's up to the machine fixer to make the best use of these adjustment facilities.

One simple fact in regard to clutch timing, which many machine fixers overlook, is that a clutch will never shift early on its own accord. If and when you find a machine with a clutch shifting early, someone *timed* it early, accidently or otherwise, but such cases are rare indeed.

When you find a clutch shifting late, you can safely assume that normal usage has taken its toll, and it's time to do a bit of adjusting to prevent dragging in, thus avoiding further unnecessary wear and strain on the shifting mechanism, clutch, and pinions. Your machines deserve this attention. Whether or not they get it is up to you. Some of the machine trouble you will have tomorrow may be caused by minor adjustments you failed to make today.

In our next article we shall discuss additional changes and improvements on late model machines.

(To be continued)

AN EYE ON THE KNITTING MILLS

Shannon Hosiery Mills, Inc., Columbus, Ga., women's full-fashioned hosiery, has plans for a one-story addition, estimated to cost about $25,000, exclusive of equipment.

Charles H. Bacon Co., Lenoir City, Tenn., seamless and full-fashioned hosiery, has authorized an expansion and improvement program at the mill in Loudon, Tenn., where 30 new knitting machines and accessory equipment will be installed. The cost is reported to be over $1,300,000. Additional machinery and facilities will be provided for the manufacture of men's hose and children's anklets, to cost approximately $400,000, at the Lenoir City mill.

The Apex Hosiery Co., Philadelphia, Pa., has undertaken a $750,000 air conditioning project as a means of improving both quality and production.

The Concord (N.C.) Knitting Co., manufacturers of ladies' full-length seamless nylon hosiery, has been liquidated. The sale of all the company's physical assets will get underway soon.

Spalding Knitting Mills, Griffin, Ga., specializing in infant hosiery, have work under way on the installation of 20 new looping machines and 45 knitting machines. Further expansion is planned for 1948 when additional knitting machines and auxiliary equipment will be installed.

Articles of incorporation have been filed by the A. J. Stortz Hosiery Mills, Inc., Fort Atkinson, Wis., to manufacture and sell at wholesale or retail, hosiery, handkerchiefs, and clothing accessories.

The Growing Demand for Quality

Made of Durene® multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash
® Reg. U. S. Pat. Off.

NEOPHIL

MADE OF Everartwist YARN MERCERIZED COTTON

* Neophil, the Nylon Seaming and Looping Thread for Nylon Full-Fashioned Hosiery, made by the Premier Thread Co., Pawtucket, R. I.

Attractive outerwear, underwear and anklets made from *Aberfoyle Mercerized Yarns* denote extra beauty, strength, comfort and service, — assuring your customers of quality and helping to maintain your sound reputation.

Quality and *Aberfoyle* are synonymous . . . and this eminent characteristic has been steadfastly sustained throughout more than sixty years.

Today, this is more important than ever to you, when great numbers of customers and potential customers are growing more selective . . . searching for and demanding *proven quality*.

"NATURAL, BLEACHED, DYED AND MERCERIZED YARNS"

ABERFOYLE MANUFACTURING COMPANY
123 South Broad Street, Philadelphia 9, Pa.
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Representatives in principal textile centers of the world

ESTABLISHED 1883
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AMERICA'S OLDEST MERCERIZERS
Durene®
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Construction Charts Provide Helpful Records

THERE ARE several methods of recording various construction details of hosiery. One set of charts that has found practical value shows graphically, all of the details of construction necessary for reproduction of any style previously made.

One of the chief values of full-fashioned construction charts is the chronological record provided for every style that has been made in the plant.

Outstanding Features

Some of the outstanding features provided by a construction chart are: needle width at various points of the stocking, courses per inch at various points, the amount of narrowing, steps in the heel and sole, details of yarn construction, and courses all through the entire stocking from the hookup to the finish.

Three types of charts, designed by a well-known hosiery plant superintendent, should increase efficiency of keeping records. Quite a large number of the leading producers of full-fashioned hosiery are using this record system.

The three accompanying charts may demonstrate the value of this system for hosiery manufacturers. However, a brief explanation of one of these charts, with emphasis on the specially designed sections, should be helpful.

It is first necessary to get the exact course count from the full-fashioned machine, after it has been ascertained that the finished length of the stocking is correct.

The width of the ankle is obtained by starting with the full needle width of the head and deducting the narrowing. The amount of widenings governs the widest point of the stocking at the heel.

The needle width at the start of the toe is governed by the amount of sole narrowing. The width of the looper line is governed by the amount of toe. Spaces are provided on these charts for the various changes.

Space is provided for the yarn construction in the welt, afterwelt, boot, splicing, and toe.

Sections are designed for inserting splicing data, special data, grey measurements, regulating buttons, and courses to govern the various foot sizes.

HER CHOICE:

the hosiery with "Give"

That *gives* lasting beauty;

That *gives* when bending and stooping;

That *gives* run and snag resistance and spot repellency;

That *gives* a gossamer sheer look;

That *gives* abundant satisfaction, and "miles more wear";

Yes—*It is DuraBeau Finished*

DuraBeau
Reg. U. S. A. and Canada
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STOCKING CONSTRUCTION CHART
(CONVENTIONAL LEGGER AND FOOTER TYPE)

STYLE_____ GAUGE_____ DATE_____

THREAD CONSTRUCTION

Welt _____
Shadow Welt _____
Boot _____
High Splice _____
Heel _____
Sole _____
Toe - _____
Toe Block _____
Ring Toe _____

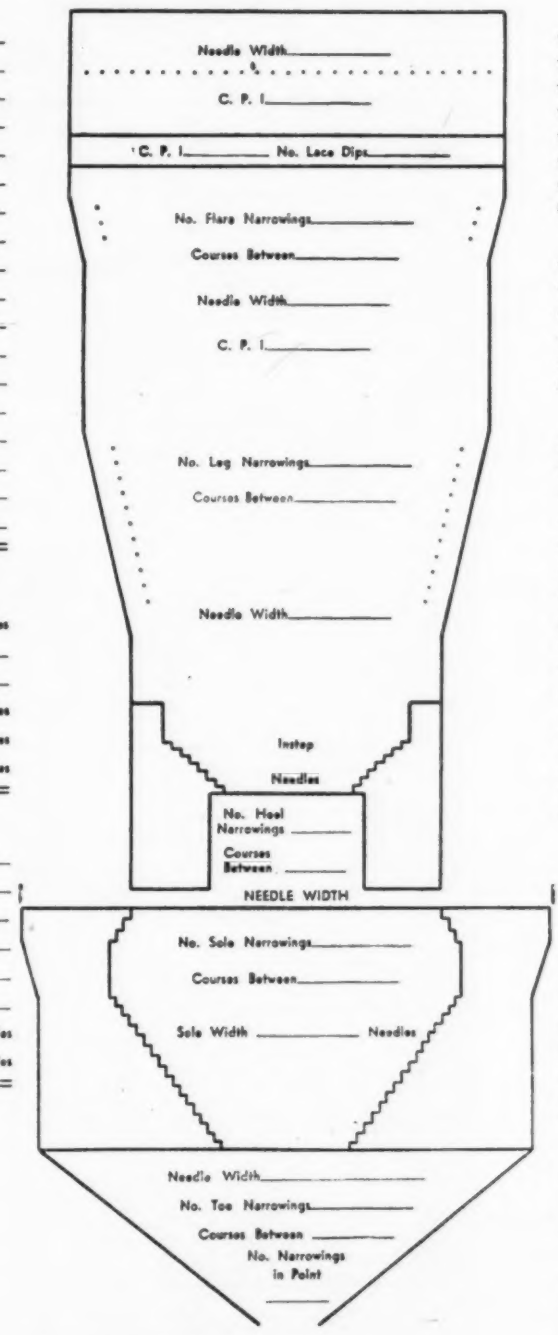
HIGH SPLICE - HEEL DATA

Panel Width _____ Needles
No. Steps _____
Courses Between _____
Rock Back to Heel _____ Needles
Width of Heel—Start _____ Needles
Width of Heel Finish _____ Needles

SOLE AND TOE DATA

No. Reducing Steps _____
Courses Between _____
No. Increasing Steps _____
Courses Between _____
Width of Toe Block _____ Needles
Width of Toe at Finish _____ Needles

SPECIAL DATA



COURSES IN LEG

To Picot _____
To Turn of Welt _____
To Main Silk _____
To High Splice _____
To Heel _____
To Loose Course _____
To Finish _____

COURSES IN FOOT

To Toe _____
To Toe Block _____
To Ring Toe _____
To Loose Course _____
To Finish _____

LEGGER CHART

Picot _____
Turn Welt _____
Picot _____
Lace _____
Picot _____
Main Silk _____
First Flare Narrowing _____
First Leg Narrowing _____
High Splice _____
First Pointex Step _____
Raval Course _____
Heel _____
First Heel Narrowing _____
Loose Course _____
Finish _____

FOOTER CHART
Size 9½

First Pointex Step Out _____
First Sole Narrowing _____
First Pointex Step In _____
Toe - _____
Toe Block _____
First Toe Narrowing _____
Ring Toe _____
Loose Course _____
Finish _____

FOOTER SIZE CHART

8½	9	9½	10	10½

REGULATING BUTTONS

Welt _____
Shadow Welt _____
First Two Courses Boot _____
Boot _____
Heel _____
Sole _____
Toe - _____
Ring Toe _____

LEG MEASUREMENTS IN GREY

Welt _____
Shadow Welt _____
High Splice and Heel _____

OVER ALL LENGTH (Picot to Instep)

Long _____
Regular _____
Short _____

Form-189 R. A. Folkman, Concord, N. C.

The conventional legger and footer type full-fashioned hosiery construction chart. A properly maintained set of charts of this type is very helpful in the reproduction of any style previously made. See page 190 for chart of the round heel construction type, and page 194 for improved heel type.

STOCKING CONSTRUCTION CHART
(ROUND HEEL TYPE)

DATE _____ GAUGE _____ STYLE _____

MILL _____

THREAD CONSTRUCTION

Welt _____

Shadow Welt _____

Boot _____

Splicing _____

Toe - _____

Toe Block _____

Ring Toe _____

SPLICING DATA

Panel Width _____ Needles

No. Rack Back Steps _____

Courses Between _____

No. Steps in Heel _____

Courses Between _____

No. Steps in Sole _____

Courses Between _____

Width of Toe Block _____ Needles

Width of Toe at Start _____ Needles

Width of Toe at Finish _____ Needles

SPECIAL DATA

GREY MEASUREMENTS

Welt _____

Shadow Welt _____

High Splice and Heel _____

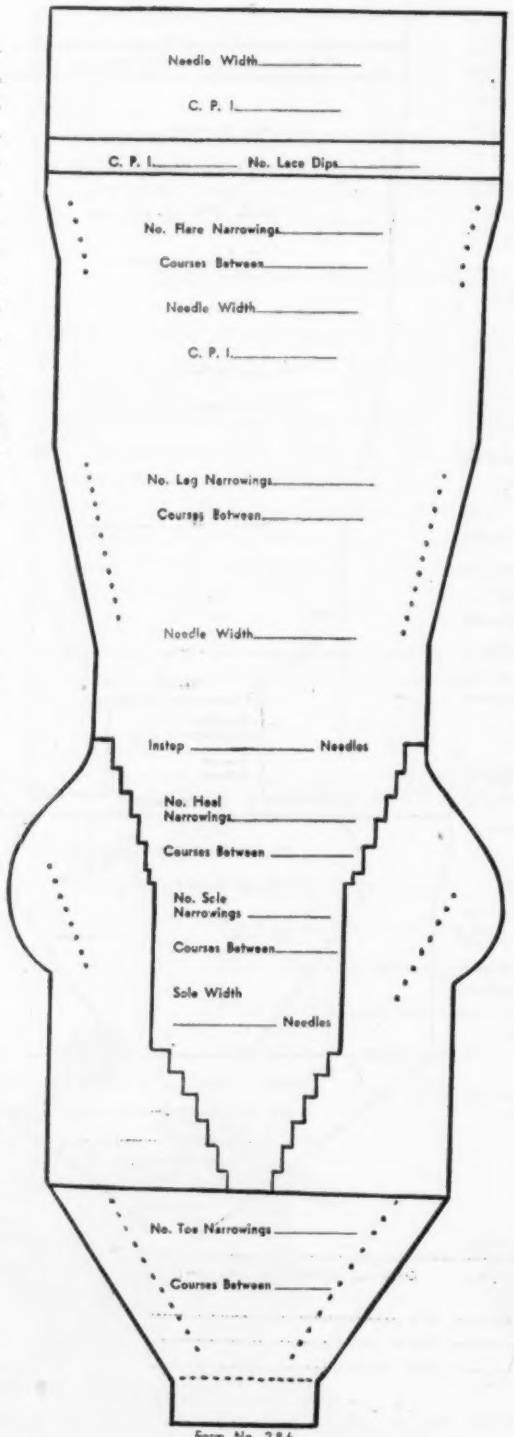
Toe - _____

OVER ALL LENGTH (Picot to Heel)

Long _____

Regular _____

Short _____



MACHINE COURSE CHART

Picot _____

Turn Welt _____

Picot _____

Lace _____

Picot _____

Main Yarn _____

Flare Narrowing _____

Leg Narrowing _____

Splicing _____

Heel Pointex _____

Rack Back _____

Heel Narrowing _____

Sole Narrowing _____

Sole Pointex _____

Toe - _____

First Toe Narrowing _____

Toe Block _____

Ring Toe _____

Loose Course _____

Finish _____

NEEDLE WIDTH AFTER RACK BACK

_____

NO. OF NEEDLES COVERED IN HEEL NARROWING _____

NO. OF NEEDLES COVERED IN SOLE NARROWING _____

FOOTER SIZE CHART

8½	9	9½	10	10½

REGULATING BUTTONS

Welt _____

Shadow Welt _____

First Two Courses Boot _____

Boot and Foot _____

Toe - _____

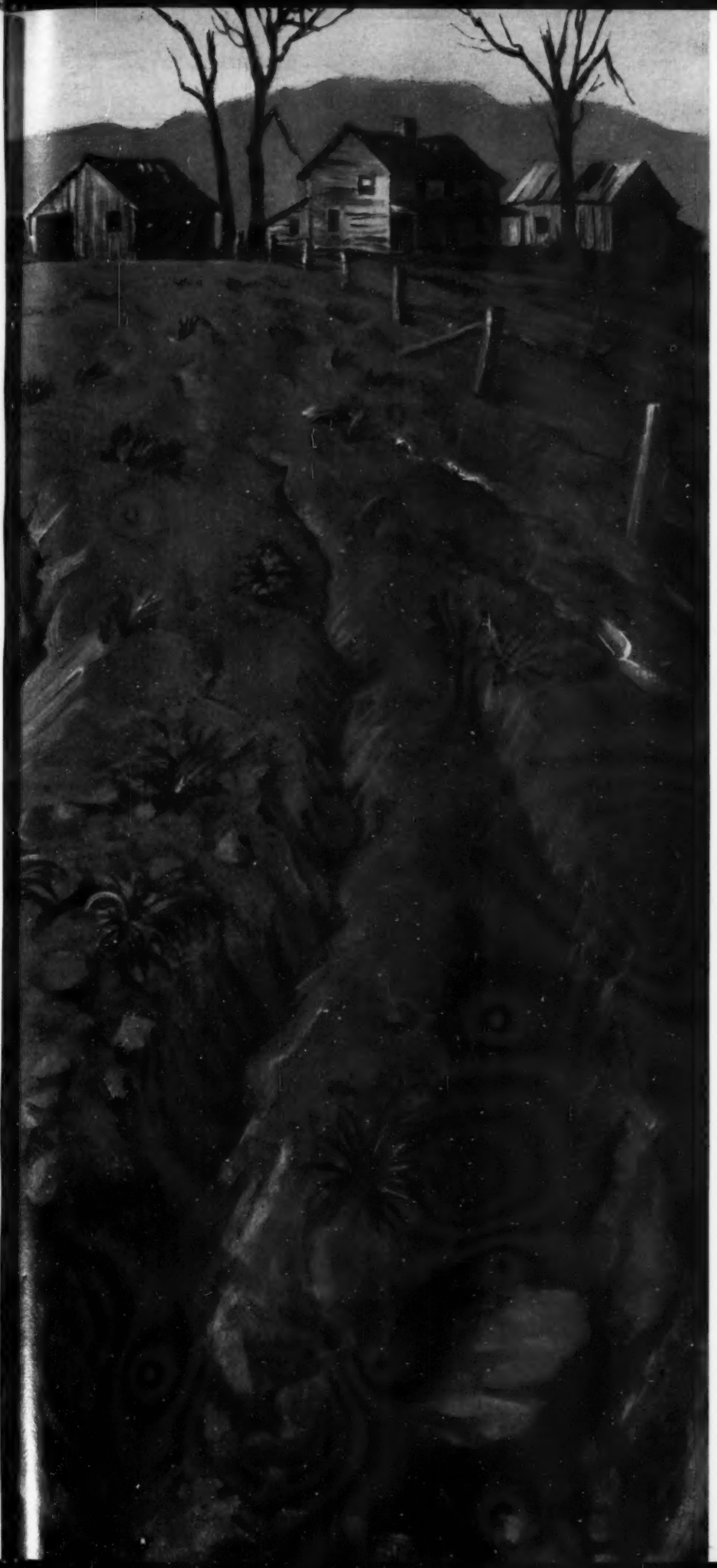
Ring Toe _____

After Loose Course _____

Form No. 286

Copyright 1942 by R. A. Folkman—Concord, N. C.

A typical construction chart for recording information regarding the procedure for the manufacture of full-fashioned hosiery of the round heel type. Please turn to page 194 for the improved heel type.



Men took the grass for granted

Look at the broken land—bare, denuded, baked dry by the sun, powdered by the wind, gutted by the wild rain. Look at the four-room flimsy ranch houses two feet deep in sand.

Erosion of the soil, whether by wind or water, results not from sickness of the soil, but from mistreatment of the vegetation which holds the soil in place.

Men grew careless on the great plains. It wasn't conceivable that the grass could ever completely disappear.

Without planned resistance to drought, wind and water—without controlled grazing, safe plowing and wise planting—even the finest land will die.

Take a look at your last Financial Statement: Are you carrying the money that you charge off for Depreciation as a "*current*" or as a "*fixed*" (plant) asset? . . . Is it money in the bank or is it money that you owe to yourself?

Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

TEXTILE MACHINE WORKS
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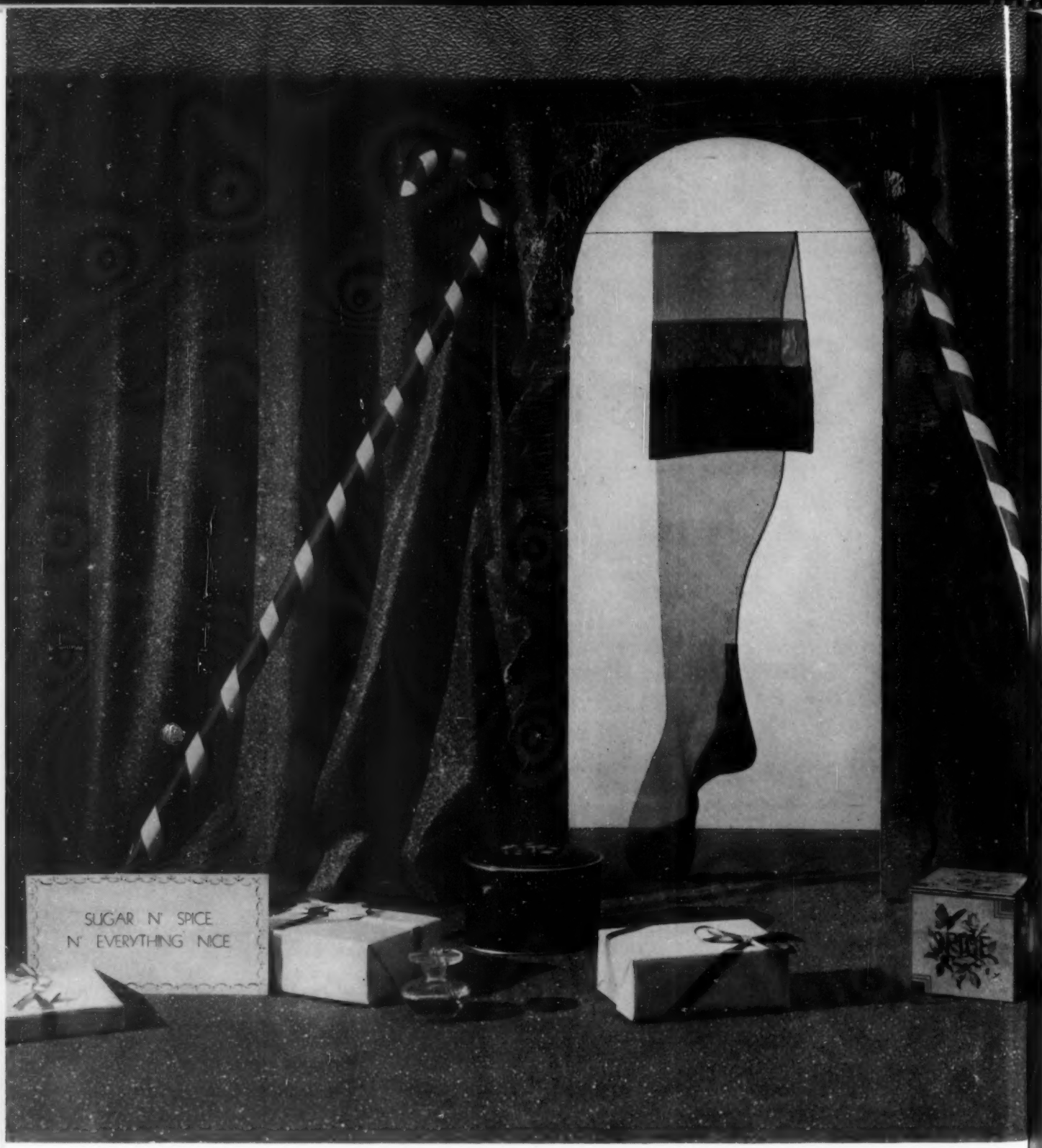
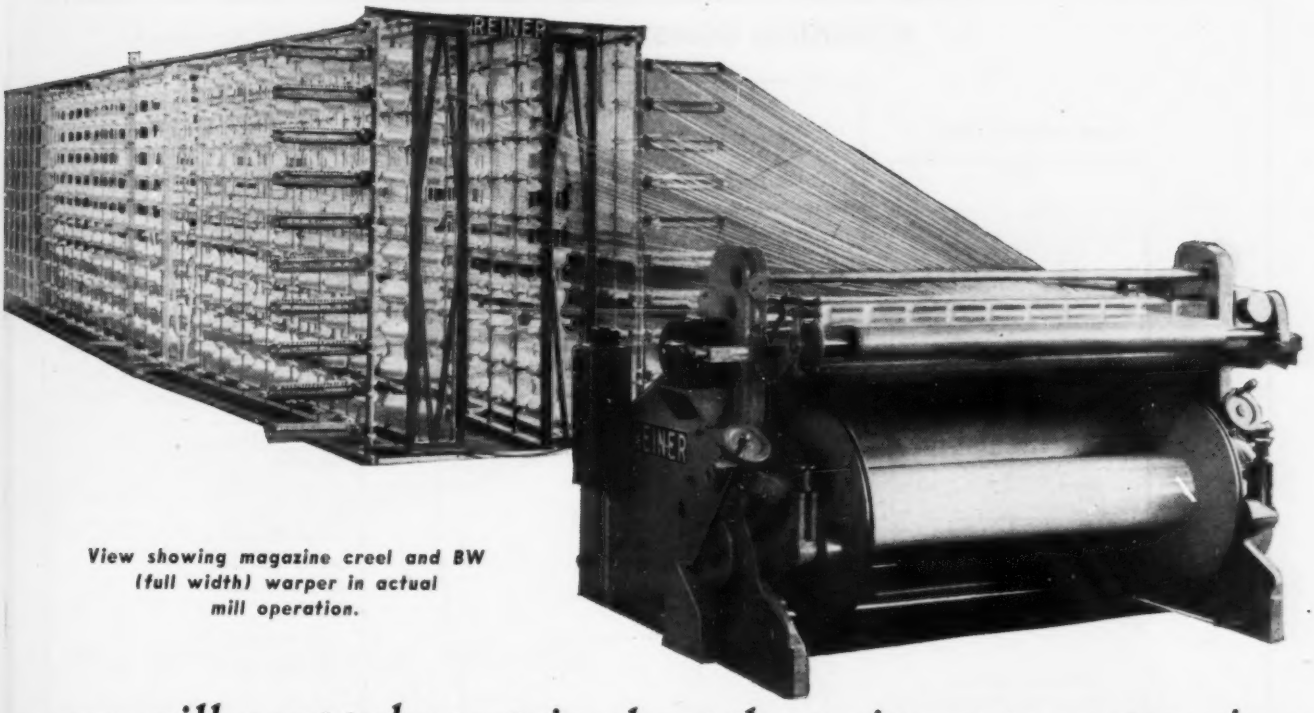


Sugar 'n Spice 'n Everything Nice . . . It takes the clear, sheer beauty of flawlessly-knit full-fashioned stockings to please the "little girls" of today. To assure these finer qualities in full-fashioned knitting, hosiery manufacturers depend on TMW "Fixture Drawn"* Needles. This special TMW patented process holds the needles straight and true. Let us put your needle bars in shape for faster, more accurate, more profitable knitting.

* Reg. U. S. Pat. Off.

TEXTILE MACHINE WORKS • READING, PA.

When Production Depends on a Single Thread—



View showing magazine creel and BW (full width) warper in actual mill operation.

—you will want to be certain about the equipment you are using

THE REINER LINE ALSO INCLUDES:

- TRICOT MACHINES *(168" or 84" wide)*
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Ask for our richly illustrated catalogs

Reiner Creel features include the latest Reiner Mercury Stop Motion (not subject to corrosion or affected by lint) which acts instantaneously in case of yarn breakage thus cutting down stoppage to a minimum. Other Creel features are overhead delivery, all steel construction, cone stabilizers, disc or counterbalanced tensions, a break annunciator, and a movable tension gate for balloon control.

- Creel sections can be added on without disturbing existing units.
- We build creels for your special requirements or floor space.

A richly illustrated creel catalog giving these and other features is available upon request.

Speed and efficiency are stressed in the various types of sectional as well as full width warpers that take care of the multiple needs of the knitting, weaving and other textile trades.

Reiner High Speed Warpers give you constant thread speed, easy doffing of beam, direct beam drive, slow starting speed independent of warping speed, and controlled hardness or softness of the warp beam.

There are many other features contained in our warper catalog which is free for the asking.

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10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505.

STOCKING CONSTRUCTION CHART

(IMPROVED HEEL TYPE)

DATE _____

GAUGE _____ STYLE _____

MILL _____

Knitting Rate _____ Per Doz.

YARN CONSTRUCTION

WELT
SHADOW WELT
BOOT
SPLICING
HEEL TAB
TOE

MEASUREMENTS

Welt
Shadow Welt
Heel
Toe
OVERALL LENGTH Picot to Heel
Short
Medium
Long

SPECIAL DATA

Needle Width _____

C. P. I. _____

C. P. I. _____ No. Lace Dips _____

No. Flare Narrowings _____

Courses Between _____

Needle Width _____

C. P. I. _____

No. Leg Narrowings _____

Courses Between _____

Needle Width _____

INSTEP

_____ Needles

No. Sole Narrowings _____

Courses Between _____

Sole Width

_____ Needles

No. Toe Narrowings _____

Courses Between _____

MACHINE COURSES

SIZE 9½

Picot
Turn Welts
Lace or Picot
Main Yarn
1st Flare Narrowing
1st Leg Narrowing
High Splice
1st Heel Step (In)
1st Heel Widening
1st Heel Step (Out)
Covering Knives Drop
Heel Loose Course
Finish Heel
1st Sole Narrowing
1st Sole Step (In)
Toe
1st Toe Narrowing
Toe Loose Course
Finish

HIGH SPLICE-HEEL-SOLE DATA

Panel Width	Needles
No. of Steps in Heel (In)	
Courses Between	
No. of Heel Widenings	
Courses Between	
No. of Steps in Heel (Out)	
Courses Between	
No. of Mock Heel Narrowings	
No. of Steps in Sole (In)	
Courses Between	
Needles at Finish of Heel	
Needles at Start of Toe	
Needles at Finish of Toe	

NO. OF NEEDLES AFTER WIDENING _____

FOOT SIZE CHART

8	8½	9	9½	10	10½	11

REGULATING BUTTONS

Welt
Shadow Welt
Overlap
Boot and Foot
Toe
After Loose Course

Form No. 356

Copyright 1946 By R. A. Folkman—Concord, N. C.

Construction chart for recording data regarding construction of full-fashioned hosiery of the improved heel type. See pages 188, 189 and 190 for other construction charts.

..that quality look, feel and wear your knit goods customers insist upon—knits easier, faster, too

Standard Durene, the extra quality combed mercerized yarn, knits an unusually soft, full-bodied fabric with a beautiful luster and a desirable elasticity . . . meets your trade's most exacting requirements for comfort, beauty and long wear. And because it runs easier, faster, is more economical, Standard Durene will meet your production man's requirements, too.

Standard Durene is the favorite of nationally known knit goods manufacturers who prize their reputation for quality. Over seventy years' experience, supplemented by our constant research, goes into the manufacture of Standard Durene. It is carefully processed in our own plants under our complete control from selected quality cotton to the finished yarn. Specify Standard Durene and be sure of that quality look.

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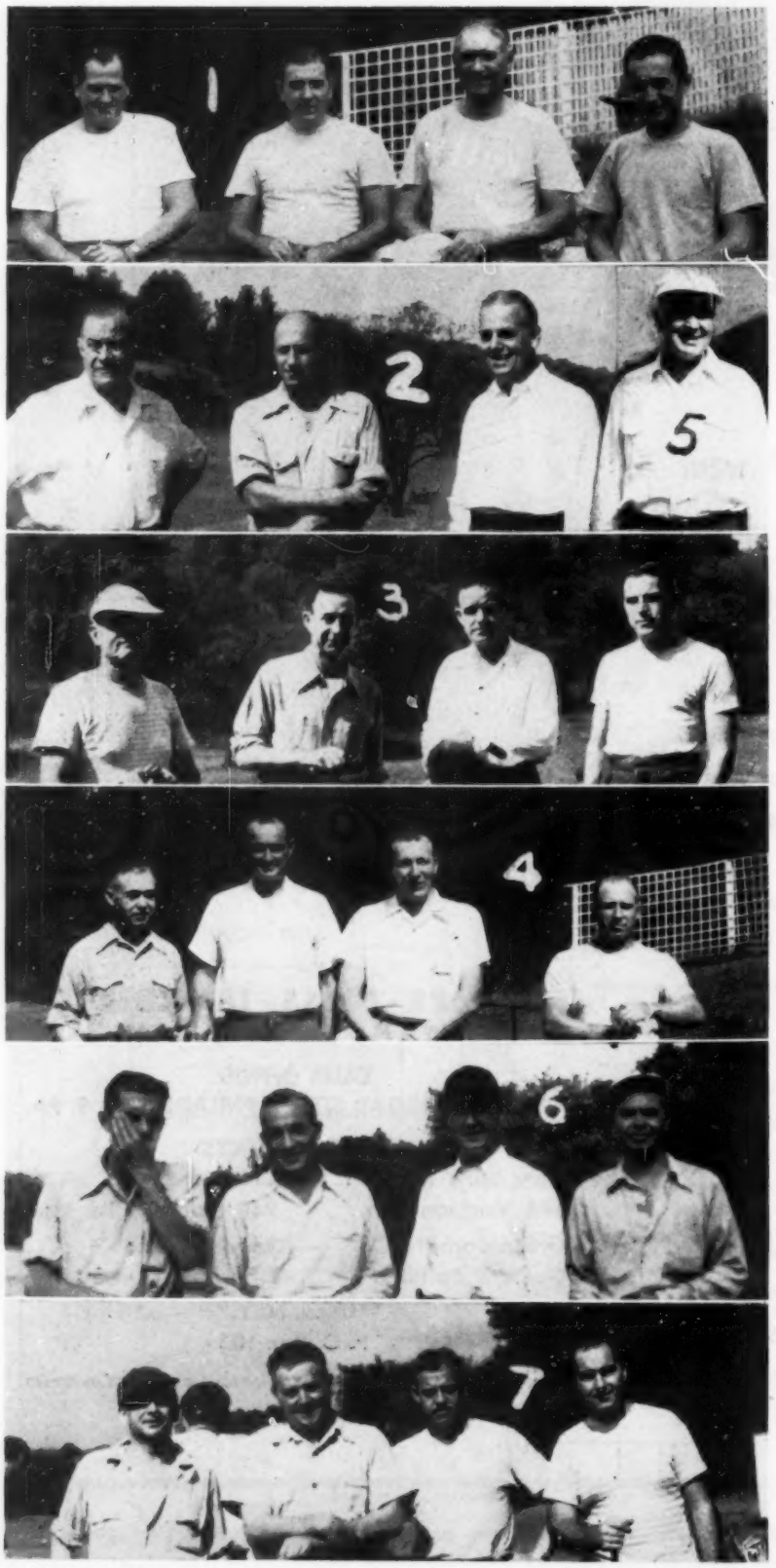
Guilford Building	Fifth & Walnut Sts.

Utica, N. Y.
P. O. Box 105

Representatives in Central and South American Countries

Chattanooga Yarn Association Holds Annual Golf Tournament



Among those participating in the annual golf tournament held by the Chattanooga Yarn Association on October 9-10. From left to right:

1. Harry Finnell, Elliott Knitting Mills, Chicago, Ill.; Burton Frierson, Jr., Dixie Mercerizing Co., Chattanooga, Tenn.; Ted Jamison, Joseph Black & Sons, York, Pa.; Jack McGuire, McGuire & Co., Atlanta, Ga.

2. W. H. Newton, Primrose Tapestry Co., Rome, Ga.; Frank Cater, Ray-Ser Dyeing Co., Chattanooga, Tenn.; H. T. Greenwood, Globe Dye Works, Philadelphia, Pa.; Henry Bryan, Bryan Hosiery Mills, Chattanooga, Tenn.

3. Fred Sails, Atwood Division, Universal Winding Co., Charlotte, N. C.; Bill Rooke, "Textile Industries," Atlanta, Ga.; Don Maddox, Textiles, Inc., Gastonia, N. C.; W. G. Fetterlin, Aberfoyle Mfg. Co., Belmont, N. C.

4. Ernest Jones, Southern Spinning Co., Nashville, Tenn.; Dick Moyer, Linen Thread Co., Blue Mountain, Ala.; C. L. Blomgrem, Franklin Process Co., New York, N. Y.; Sam Hodges, Alabama Bedspread Co., Scottsboro, Ala.

6. A foursome including John Magill, Atlanta Hosiery Mills, Atlanta, Ga.; Pete Morrow, Dixie Mercerizing Co., Chattanooga, Tenn.; Paul Johnson, Atlanta Hosiery Mills, Atlanta, Ga.

7. Robert F. Strahley, Central Franklin Process Co., Chattanooga, Tenn.; Robert F. Howell, Hesslein & Co., Greenville, S. C.; Earl W. Eddy, Hesslein & Co., New York, N. Y.; Paul W. Conley, Bamatuft Co., Scottsboro, Ala.

Cotton Mechanization to Be Subject of Research

Development of efficient equipment for mechanizing cotton production in the South has been approved as a research project under the Research and Marketing Act of 1946, the U. S. Department of Agriculture announced. The studies will be carried on in several southern states by the Bureau of Plant Industry, Soils, and Agricultural Engineering, in cooperation with state agricultural experiment stations.

Emphasis will be on equipment for producing and harvesting cotton on small farms and to improve such equipment for use on larger operations. A special phase of the project will aim to develop uniformly dependable methods and equipment for defoliating cotton prior to harvesting throughout the Cotton Belt.

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Originally used to hunt wild boars, the Great Dane is usually gentle despite his ferocious appearance and great strength. Faithful and intelligent he excels as a watchdog.

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Nylon Allotments Hit Hosiery Output

Since Labor Day, nylon yarn shipments to hosiery mills has shown only nominal increase, causing disappointment among manufacturers and distributors and leading to a special survey by the hosiery workers' research department. The latter noted a small further increase in nylon yarn arrivals during October. It is reported from the same quarter that some of the larger manufacturers have been given to understand that next month they will get the first substantial increase in yarn supply, but there is still no indication of how far the November supply will exceed the weekly average weights taken in by the mills over the last few months.

Meanwhile, it is pointed out, the market for nylon stockings continues to strengthen, and some mills are reported quoting $18 per dozen pairs (and higher) on 15-denier, 51-gauge goods, which compares with a price to retailers previously of $14 per dozen pairs on a leading brand. It is added that quick-delivery nylons of almost any construction command price premiums. Rumors that the DuPont company would discontinue production of 40-denier nylon yarn are authoritatively said to be without foundation. Continued curtailment of nylon hosiery production by important mills has been noted, it is said.

A number of mills that had discontinued or reduced operations on rayon and silk have been forced to reduce to schedules of three or four days a week because of insufficient supply of nylon yarns, it is reported. During the summer vacation period, some mills accumulated nylon yarn enough to warrant operating a five-day week and manufacturers anticipated their nylon arrivals would be adequate to maintain this rate of operation, but they have been disappointed. Manufacturers' spokesmen summarize the outlook, in effect, as follows:

A new scarcity of women's nylon hosiery next winter now looms as almost a certainty. Nylon yarn allotments during October show almost no increase over those of recent months. Information now in hand seems to indicate to some manufacturers that November receipts will not be much larger than October's. In the textile-apparel lines, where scarcity of many kinds of wanted goods has reappeared, the slight summer-time lull in nylon hosiery retail sales and the expectation of reasonably greater nylon yarn allotments this fall, had encouraged many of the mills to count on a rising volume of production and a healthy year-end holiday business.

At this time it appears as if buyers will be scrambling for whatever they can get, as they already seek small quantities of all deniers and gauges of merchandise. Manufacturers' spokesmen believe there is little question that the mills will not have to worry about carried-over stocks into 1948, because it will be nearly impossible for them to fill all the late fall and Christmas demand. Whatever happens to nylon yarn supply beyond mid-November, it is explained, October is the crucial time at which the manufacturers have to exert themselves to meet the seasonal rise in demand.

Observers add that while there is a natural tendency among manufacturers to complain about the DuPont performance in this respect, because it is claimed their hopes were not fulfilled, in the end it will have to be admitted that the producer probably did everything possible to turn out acceptable yarn according to schedule, and in these days of shortage of chemicals and other materials, and intractable labor, it is difficult when it comes to meeting goals set long beforehand.

Some industry authorities point out that lack of better nylon supply may have beneficial results in the long run, because if allotments through the final four months of 1947 had been up to expectations, an over-supply of nylon stockings might have resulted, which possibly might have reached embarrassing proportions.

Consumer Demand Above Estimates

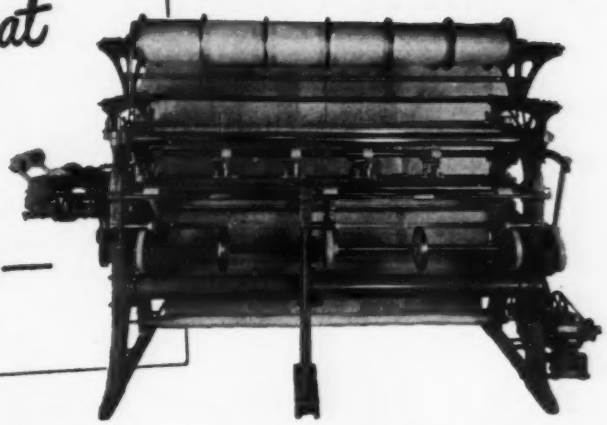
Weekly reports by the Federal Reserve System of dollar-volume of retail sales this fall have averaged so much above the expectations of mid-year that industry authorities and individual operators have been tracing back over their previous estimates, in an effort to discover where they went wrong, and why, and to guard against wrong guesses on their winter and early spring business.

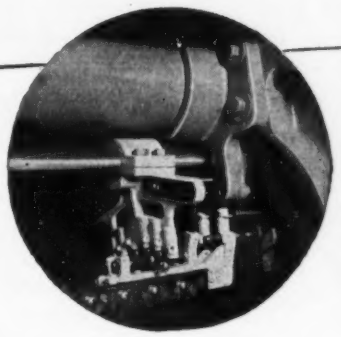
It is now apparent that the public this fall has been in position to absorb substantially larger quantities of merchandise in textile-apparel lines than forecast by even the more optimistic observers a few months back. Numerous excuses have been offered for the apparent failure of seasoned and otherwise competent authorities to correctly forecast consumer volume, but in general it appears to some of the industry's veterans that some of the things overlooked before, which since have become potent, can be outlined as follows:

(1) A new buying psychology seems to have developed among the public. The buying mood is admitted to be one of the "intangibles," but at ány rate it has played an outstanding role since Labor Day. During the war there was a long period of good earnings. Two years ago, it was expected this lush period would soon end, but export demand developed for American products, and our consumers have been able to continue to indulge their fancies for merchandise.

(2) The average national income has increased, furnishing the public with the dollars needed to back up the individual customer's preference for more and better-

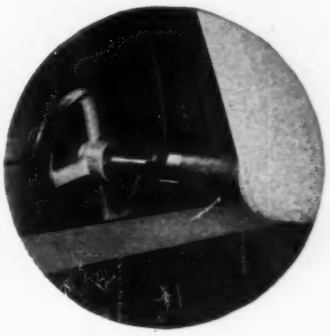
Three of the features that make the Kidde Knitter the leader in Raschel-type machines—

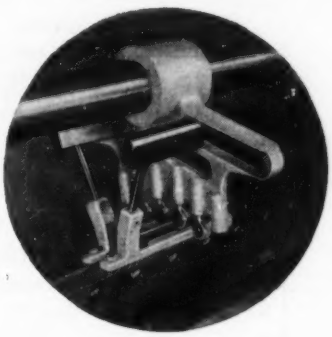




Guide Bar Assembly. On the *Kidde* Knitter, guide bar assembly can be raised or lowered as a unit by loosening four bolts that hold assembly to end frames and setting adjusting screws. Assembly is hung on supporting tube 6" in diameter, with ½" walls, assuring absolute rigidity under all conditions of load and speed. Swing bar is made of 1-15/16" diameter steel shafting to prevent torsion.

Cloth Roller. By simply removing a single bolt on each end, the cloth roller is released and rolls out from under the machine on a track. An empty roller can be quickly inserted so that down time is at a minimum. On double needle bar machines, where a front leg is supplied, the leg is hinged to permit removal of the cloth roller.





Guide Bar Hangers. Six guide bar hangers provide six-point suspension on guide bars and assure rigidity. Up to six guide bars may be used — each may be adjusted individually. Guide Bars are supported in the hangers by self-aligning bearings — torsion rods are provided at each of these six points to maintain guide needle alignment even with tightly stretched elastic yarn.

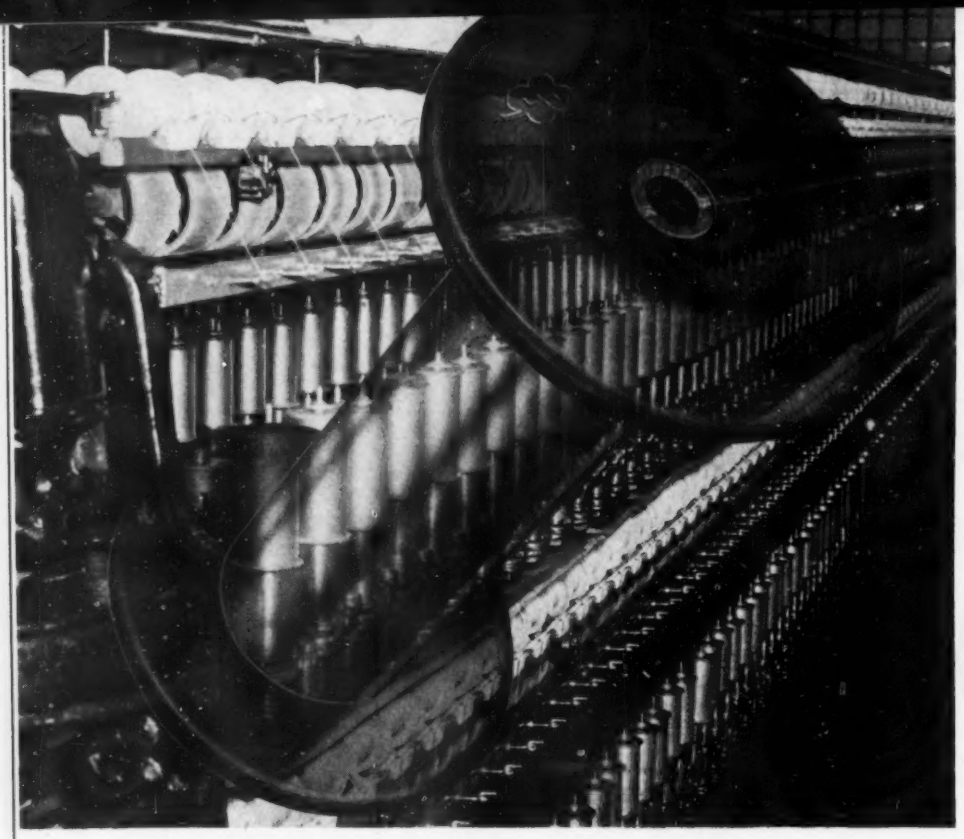
These are just three among the many reasons why practical Raschel men recognize the *Kidde* Knitter as the last word in warp-knitting machines. Exceptional accessibility, wide versatility, high sustained operating speeds — these advantages make the *Kidde* Knitter outstanding!

Write for descriptive literature—or better still, see for yourself what the *Kidde* Knitter can do. A machine is in operation at our Bloomfield plant—we'll be glad to arrange a demonstration. Just write for an appointment.

The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.

Kidde Knitter

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY



Back of every great development in Textiles stands the Bobbin. Photo courtesy R. K. Laros Silk Co.

An Engineer designs a wonderful new spinning machine, faster than any machine known in the Industry.

Ordinary Bobbins subjected to such super-speeds would literally shake themselves and the machine to pieces.

To meet this condition Cloverleaf-Freeland develops a Bobbin so amazingly precise, so carefully balanced that even at high speeds it seems to be standing still.

This is just one example of the manufacturing skill of Cloverleaf-Freeland—skill that builds great bobbins.

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CLOVERLEAF-Freeland BOBBINS

quality merchandise. This backs up the markets more or less for the reasonable future, because this fall employment is at a high level and workers average good pay and the potential markets for textile-garment items is accordingly expanded.

(3) The competition from the "hard goods" industries has been less than expected, leaving textile-apparel producers a larger margin of consumer expenditure than they expected.

Pre-Employment Physicals

(*Continued from page* 92)

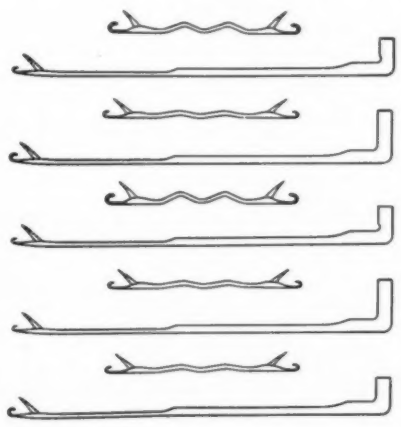
bor turnover and does not include all wages paid for nurse (as we have previously stated, only a small part of the nurse's wages could be charged to this program). It would only take about four rupture repairs to equal this cost (the rupture repair usually costs between $75 and $100 plus the employee's lost time wages for about 13 weeks).

I know of one mill that repaired six ruptures in the first eight months of 1946. When we consider the amount of venereal disease among applicants during a period of a year, it will seem to justify the cost of the examination.

Further justification of pre-employment examination is illustrated by a case that happened in a mill last year where the employee was employed before examinations were required. He had a blood pressure of 250 and also was syphilitic. He would not have been employed under present standards of the mill. His accident cost $3,329.69. It should not have been over $500. Because of his physical condition the higher cost was due to the delayed convalescence and a higher percentage of disfigurement.

The percentage of rejections will be low, approximately 7 to 10 per cent; however, it is the low percentage of employees that cause the high accident cost. Justify this program for your plant by reviewing the records and it will be seen that only a few accidents prevented by pre-employment examinations will pay the cost of this program.

know your NEEDLES FOR SPORTS ANKLETS



TORRINGTON provides almost as many types of needles as there are styles and designs of men's, women's and children's sports anklets. But in the *entire* line of more than 10,000 different types of Torrington Needles, there is NO variation in their excellent knitting qualities.

Every Torrington Needle is machine-made and machine-tested . . . every needle has the strength, temper, finish and accuracy of dimensions to consistently do the kind of job that *you* want—no matter what your knitting requirements.

It pays in *many* ways to standardize on the needles in the famous Red and Green Box.

The Torrington Needles shown here are among the types commonly employed in the knitting of sports anklets.

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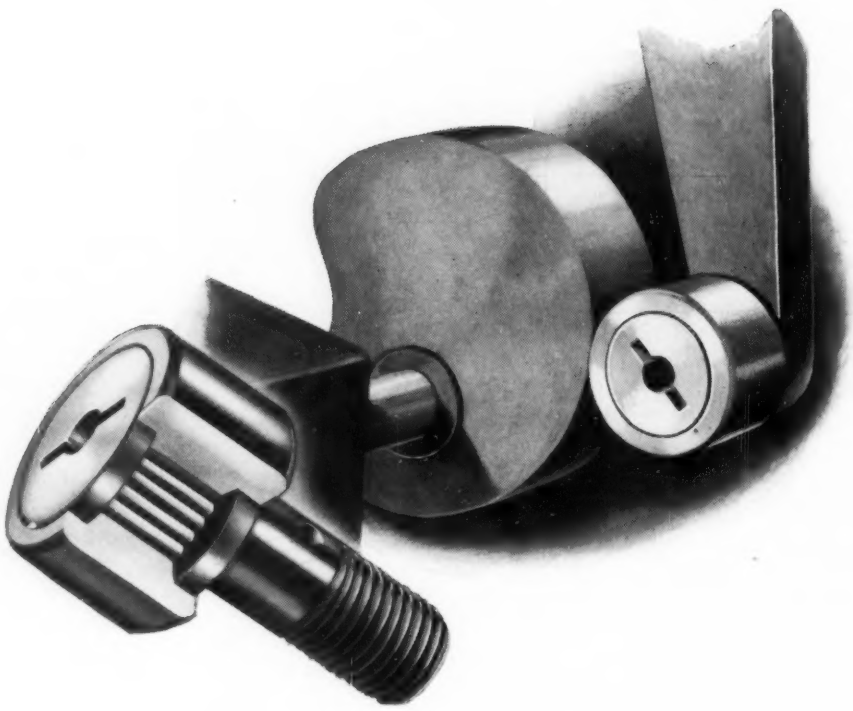
There's a **TORRINGTON** LATCH NEEDLE for every type of Knitting!



For dependable "follow-through"...

in cam follower applications, wear must be kept to a minimum . . . a problem which grows with increasing loads and speeds. The anti-friction efficiency of

Torrington Cam Follower Needle Bearings . . .

helps to assure continued accuracy of operation of many types of machines. They have a high radial capacity provided by a full complement of small diameter rollers—backed up by sturdy outer races. They are compact in design, occupy little space, retain and distribute lubricant effectively to all surfaces.

Torrington Cam Follower Needle Bearings are made in a wide range of sizes, one of which may be the solution to your cam roller problem.

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Inflation Menace Feared

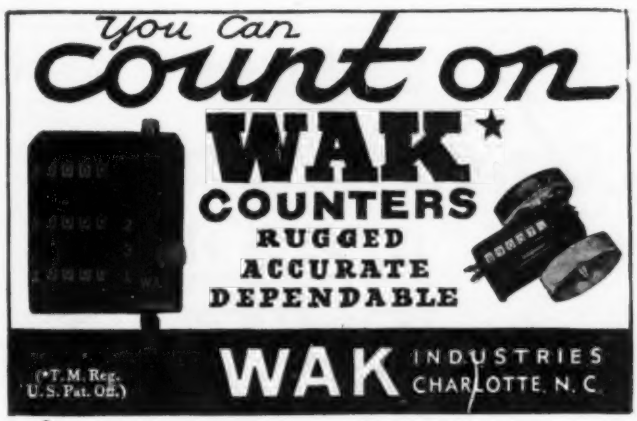
Interviews with manufacturers and distributors in many essential lines have brought out that while, on the surface, it appears as if caution has been largely discarded, neither the producers nor the disposers of textile and apparel goods are underestimating the dangers of their position. In some cases, all that is presently possible is being done to safeguard individual and group business interests against the inevitable "break," which may come from some obscure event or development that cannot be foreseen.

As an illustration, some of the larger houses that virtually control our importation of a necessary animal fiber, of which scores of millions of pounds are consumed annually in this country, but of which we produce almost none, describe the sort of prosperity they are now experiencing as a time of unsettled conditions, when nobody can dodge the fear of inflation; when anxiety is felt for the future; when nobody can plan ahead with a normal degree of confidence; when heavy reserves must be kept inactive in the banks; when the credit status of customers must be given constant attention.

When compared with the competitive position of the average manufacturer or merchant, the importing houses above referred to would seem to have less to worry about, if the bottom should suddenly drop out of world trade and precipitate a widespread depression in this country. Nevertheless, they contend they sooner would do only half of their present volume, and do it at prewar price levels, and pass up their extra margins for profit, if something would only happen to take government out of business and permit the restoration of normal peacetime control of their own affairs.

To the interviewer this makes it appear that American industry and commerce has not rushed forward to embrace inflation, but at each upward twist of the spiral of costs and prices there has been greater reluctance to conform to the dominant trend. At present, in discussing such matters, some interests point out that inflation on the present scale cannot be dealt with in detail, but requires active deflationary movements on a nationwide scale, which have not been forthcoming so far.

Over the last several months, professional economists often have been objects of ridicule because a year ago they foresaw where politically-inspired government policies would lead to, and gave the alarm that resulted in efforts by industry and trade to attempt a gradual recession. This corrective attempt, it is claimed, got no help whatever from Washington authorities, but, on the con-



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trary, leaders of organized labor in the coal, steel, motor, electrical, shipping, and other salient industries were once more encouraged to insist on another round of wage boosts. When these were granted in preference to facing disastrous strikes, such a flood of new buying power was let loose that, by the middle of last spring, it became impossible for mills and merchants to hold prices and costs in check.

Foregoing, in effect, is one way in which some business spokesmen try to explain how our American economy arrived in its present uneasy condition. They contend that the economists' warnings of 1946 were heeded by many thousands of business men, but the trend got beyond their control. Even yet, they assert, they are trying to be conservative and avoid speculation, and at every opportunity have urged a like course on their customers and business associates. Instead of "living in a fools' paradise"—as was often remarked following the 1929 collapse—business people of the sound and substantial type profess to be greatly disturbed.

Not having it in their power to correct the evils they see, it is added, their hopes seem to center on the chance that the government, itself, may become alarmed and the two parties may agree to postpone their minor antagonisms long enough to allow the country to meet this inflationary crisis. This would entail an almost unheard-of degree of patriotic unselfishness among the aspirants for victory in next year's Presidential election, it is admitted, but still it is felt by some observers that constructive bipartisan action is distinctly possible when Congress meets again.

Service Department for F.N.F. Knitting Machines

A complete service department for F. N. F. knitting machines has been set up by the American Viscose Corporation at its Textile Research Department in Marcus Hook, Pa., according to a recent announcement. The department will carry a complete line of spare parts including pattern wheels and the new tubular compound needles.

At the same time, it was reported that the production model of a new 84-inch, two-bar tricot machine has arrived in Marcus Hook and may be seen by appointment. A continuous program of experimental patterning work is already under way there, using a wide variety of yarns of different sizes and types.

The machine, it was stated, cruises at 1000 courses per minute, which is well within its top speed. The use of double eccentrics instead of cams results in a marked lack of noise and vibration.

It is claimed that there is little

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TROUGH SOLUTION
FOR KNITTING
NYLON

Knitting Mill Conditions Vary Greatly
Nylon Thrown by Different Throwsters Varies

It has been necessary for us to make several types of KALPINOLS to meet these conditions.

One knitting mill has all nylon yarn from the same throwster but mill conditions are different in three sections of the mill, necessitating the use of three types of KALPINOL, each giving equally good results in the section in which it is used.

Let us help you.

•

For cleaning nylon size from your needles, sinkers, bits, etc., use K.N.K. (KALI NEEDLE KLEANER). It can be used straight or mixed with equal parts of water without separating.

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HYDROXY HAND CREAM — for operators handling nylon, to keep their hands smooth.

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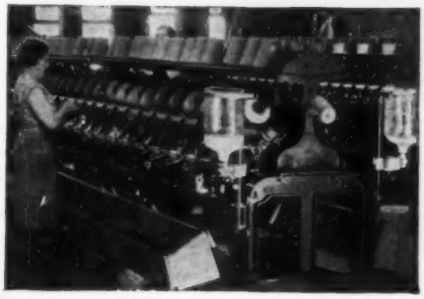
Laurel Emulsions—Hydrocop and 3B Softener—condition and soften cotton yarns, mercerized, dyed or bleached. Used by hundreds of mills for over 25 years to assure proper regain, speed up twist, produce even-running yarns and clearer stitch. Laurel Hydrocop and 3B Softener will not turn rancid or discolor yarn on standing. Easily applied over roller trough or cone winders, quilling frames, or twisters. If you want softer, better knitting yarns to help you meet specifications, send for a trial order of these veteran emulsions, Laurel Hydrocop and 3B Softener today.

★ ★ ★



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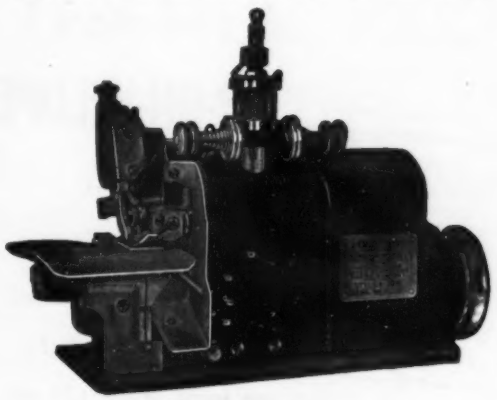

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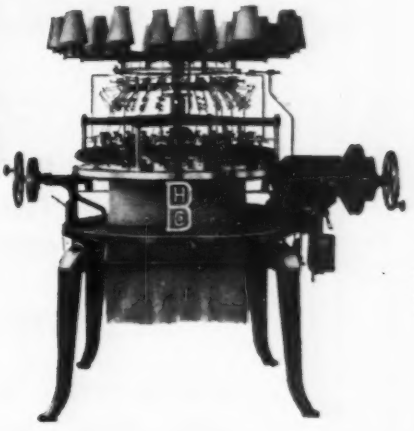
By every comparison—this ruggedly constructed, modern machine—with 24 extra large pattern wheels—produces those high style Jacquard effects—most economically. Interlock—Blister—Raised Welt Stitches—Tuck Grenadine and Plain Rib Stitches—are achieved with equal facility. An unlimited range of patterns—varied in color and stitch—coupled with ingenuity of styling—are assured when you install the Brinton P. R.-19.



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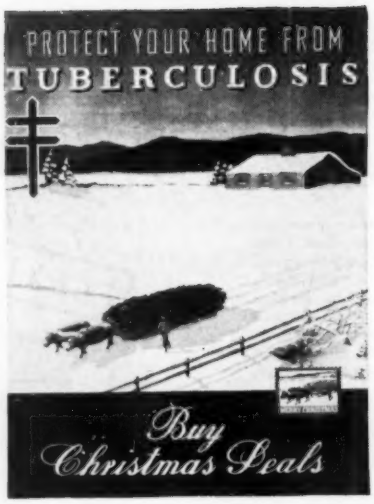
yarn strain as the yarn is fed to needles rather than pulled by the knitting elements. This, coupled with a flexible tension bar and a positive and constant cloth take-up, results in a better control of quality, according to the announcement.

If a single thread breaks, the machine stops immediately. There is a built-in pressure lubrication system and thermal expansion is controlled on needle. tongue, guide and sinker bars.



Interest In Silk Is Improving

Former users of silk are reported to be planning greater employment of this fiber in 1948 than at any previous time since the government took over the silk supply a few months before Pearl Harbor. It is expected silk trading next year will be on a freer basis; silk production is thought sure to expand in Italy and China; barter agreements by the United States, with China and Japan, are under discussion; and government agencies—as before noted—will do what they can to promote increased consumption of silk in this country.

Observers, who for some time have made a close study of the silk outlook, do not contend there are prospects of more normal operations as the U. S. Commercial Company (a postwar government agency) withdraws from the field and trading will get further impetus from the withdrawal of the guaranteed government raw silk prices. In some quarters it is expected our State Department will insist on retaining some government supervision, but will try to avoid the pitfalls of this year and last, whereby heavy losses had to be written off. After the government's guaranteed prices are withdrawn, an expected decline in raw silk to the neighborhood of $3 per pound should encourage confidence, it is asserted.

At the outset, some authorities claim, most of the American demand for raw silk will be for the manufacture of fabrics with only a small portion going into hosiery and undergarments. Lack of dollar-exchange in Italy and China is said to have created interest among our manufacturers of major industrial items, in various schemes for bartering our machinery for their silk.

Style 20

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BASKETS
TRUCKS
SHIPPING HAMPERS

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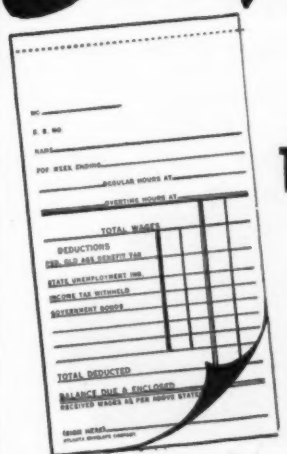

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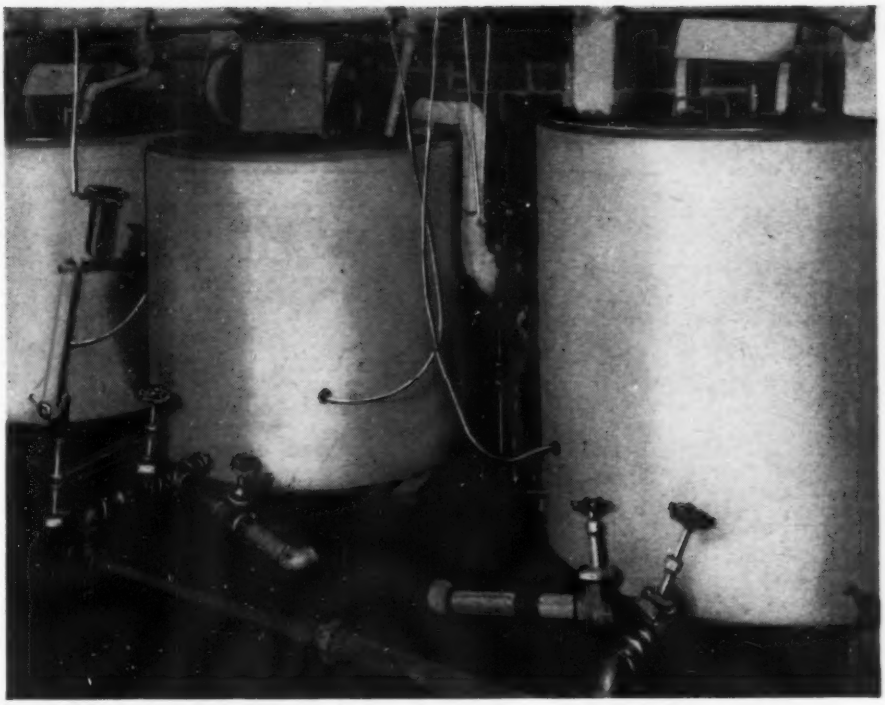

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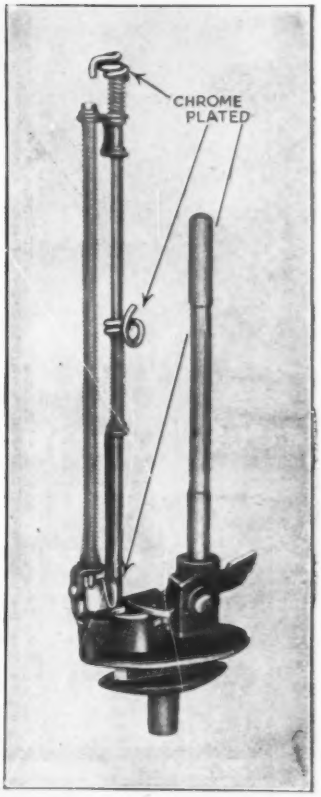

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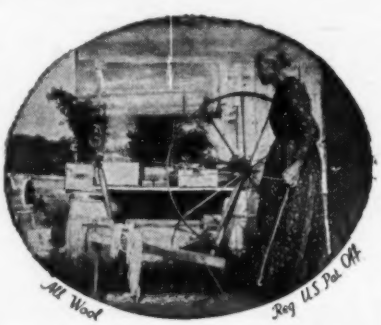

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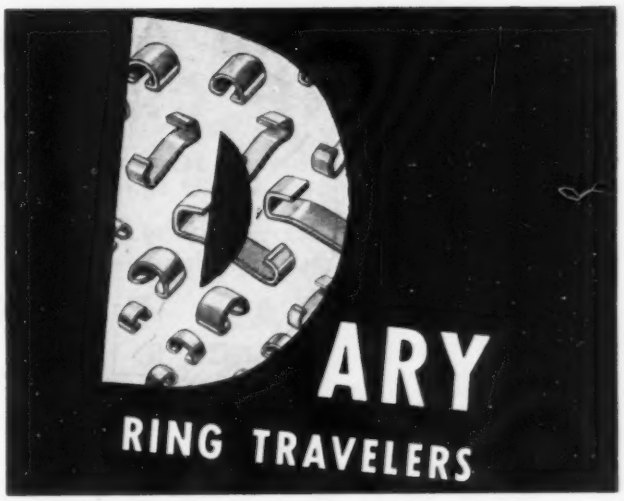

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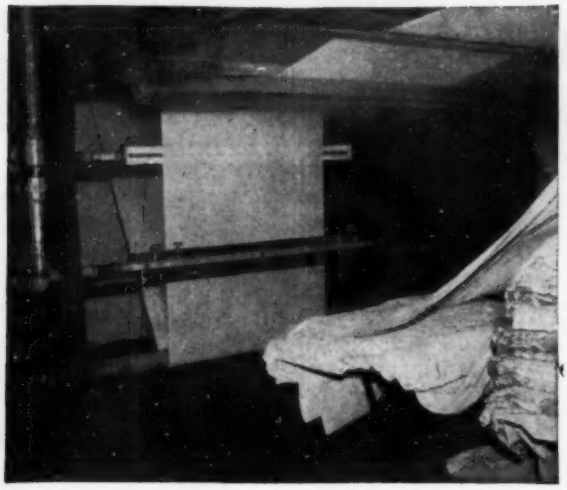

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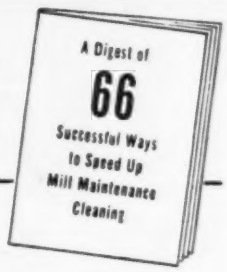

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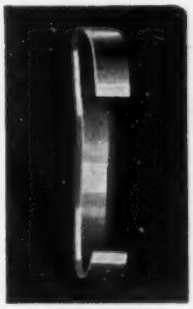

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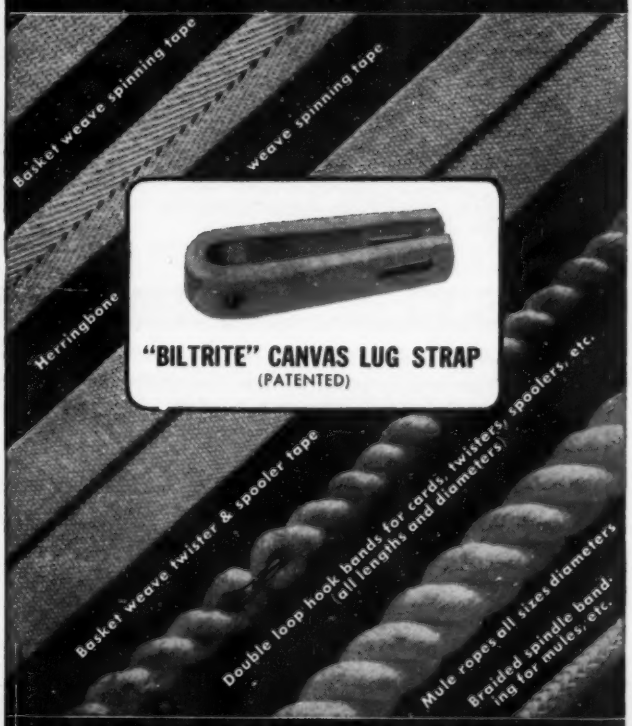
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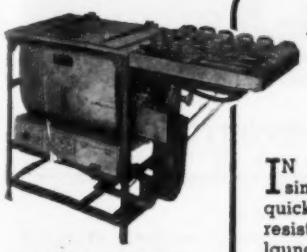

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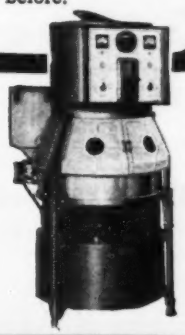

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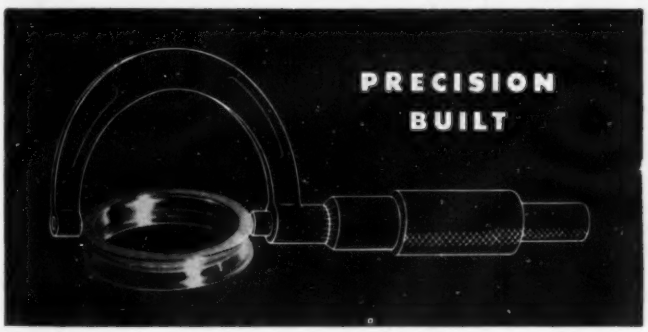

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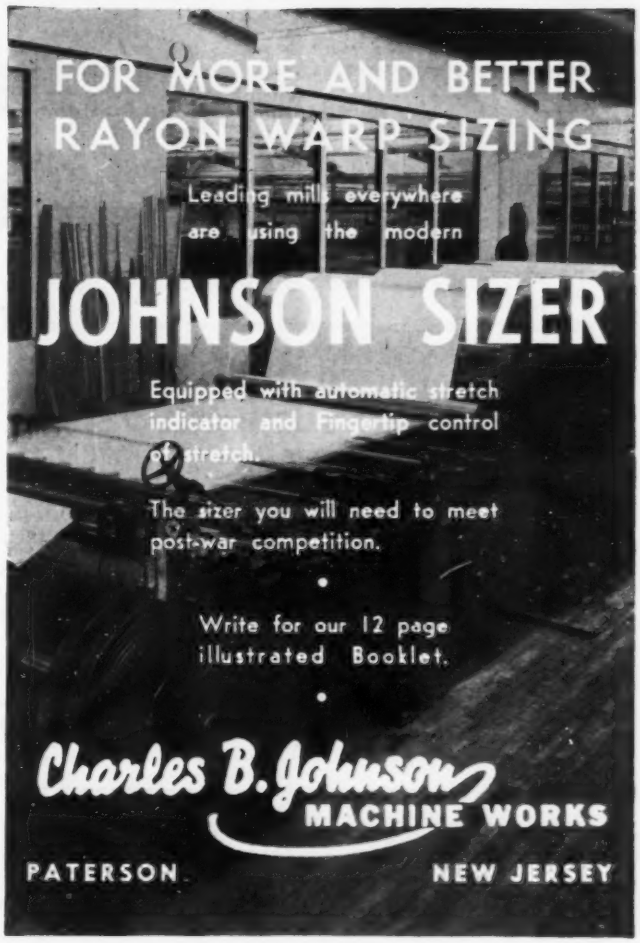
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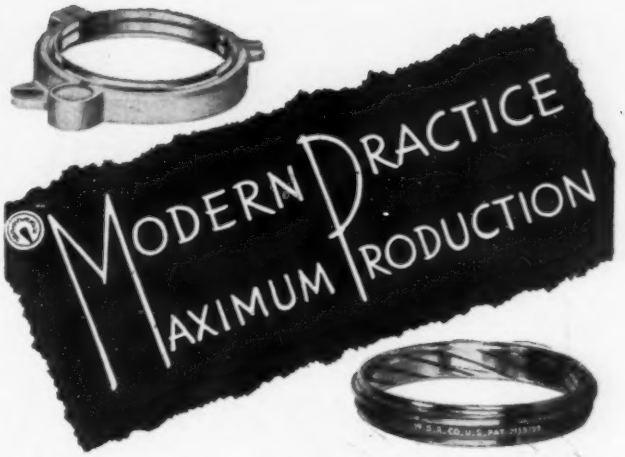

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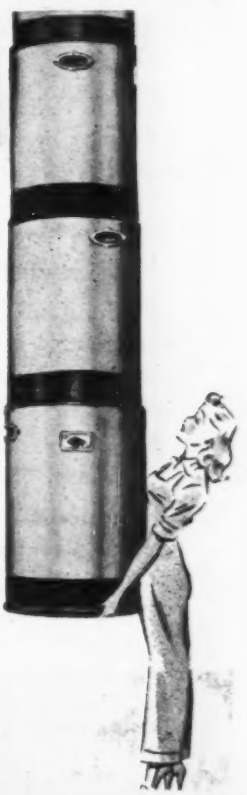

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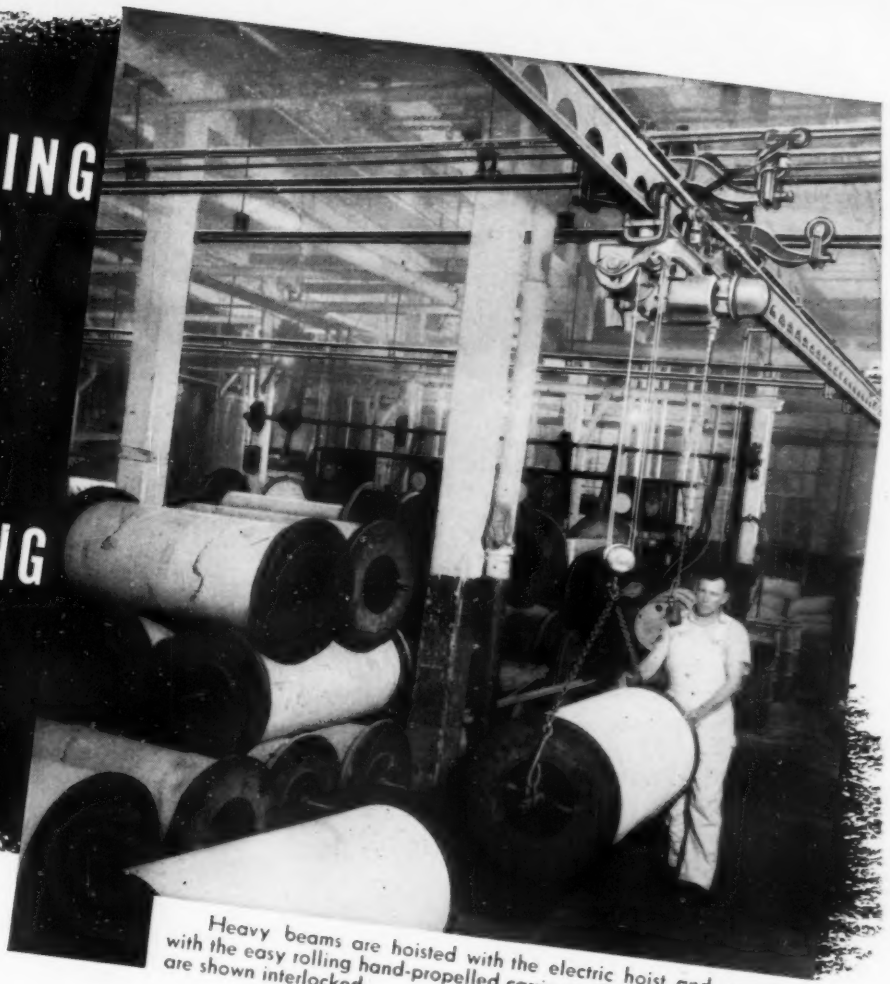

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*Reg. Trade Mark

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